

APC
4/2
Map
4/9

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: REVIEWED: LOGGED: JTS PUNCHED: VERIFIED: 15 APR 1968

CARD 1

RECORD IDENTIFICATION											Aircraft Model											AIRCRAFT BUREAU NUMBER											Time of Mishap					
Date			Type Report	Log Line Number	Aircraft Number	Source	Den't Count	Enemy Action	Mission Modif.	Basic Mission	Design Number	Series Symbol	Model Code												Repeating Custodian	Type Duty	Major Command	CONDITION	LOCAL TIME									
Cal. Yr.	Mo.	Day	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
68	01	29	1	05	01	2																																
Acft. Dmg.	Acft. Dmg.	Acft. Inj.	Acft. Inj.	Hull Number	Kind of Flight	Clearance	Location					FAC. RWY DESCRIP.					FAC. SHIP DESCRIP.					Trans. Code	Card Number															
42	43	44	45	46	47	48	NAME CODE					Bearing From	Dist. From	Distance	Area	Runway Heading	Length	WAS DUTY RWY USED?	Ship Type	Ship Course	Ship Speed			LOC'N														
A	A	B	B																																			

CARD 2

RELATIVE WIND		Alt. of Emergency		Acft. Gross Weight	Fiscal Year	Fleets and Navs.																																	
Direction	Velocity	Density Altitude	Above Terrain				Pressure Altitude																																
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49		
PROPERTY DAMAGE COST				Aircraft Injury Summary											Trans. Code	Card Number																							
Gov't.	Non Gov't.	Total Occupants This Acft.	TOTAL INJURIES "A" "U" "L"		"A" Injuries		"U" Injuries		"L" Injuries																														
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86			

231E

AIRCRAFT OF

CODE SHEET OF 19

04.15.68

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS) CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 3

RECORD IDENTIFICATION											Aircraft Injury Summary (cont'd)																			No. Occupants Involved													
Date			Type Report	Log Line Number	Aircraft Number	"B" Injuries				"C" Injuries				"D" Injuries				"E" Injuries				"F" Injuries				"G" Injuries					Total Injuries												
Cal. Yr.	Mo.	Day				Navy	Non Navy	Navy	Mon Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy	Navy	Non Navy		Navy	Non Navy											
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42		
68	12	29					1	05	41	91	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	01	02	

ESCAPE SYS. DATA				Spec. Data	Pri Acct. Type	Pri Phase of Operation	1st Acct. Type	1st Phase of Operation	2nd Acct. Type	2nd Phase of Operation	Trans. Code	Card No.																															
Sys.	Component																																										
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80						
B	0	0	A																																								

CARD 4

		3rd Acct. Type	3rd Phase of Operation	Type Operations	Contributing Causes			Pilot Error Causal Fac.			Other Personnel Causal Factor			Inv. Mat. Comp.																															
					First	Second	Third	Pilot Factor After Fact.	First	Second	Third	Other Pers. Factor After Fact.	1st Causal Factor																																
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50							

Involved Mat. Comp. (cont'd.)				Material Fact. After Fact.			Acft. Design Comp. Causal Factor			DESIGN C.F.		Trans. Code	Card No.																															
2nd Causal Factor		3rd Causal Factor		Cross Ref. Component	Ass'y.	Sub Ass'y.	Cross Ref. Component	Ass'y.	Sub Ass'y.	Special Equipment Pilot Equipment																																		
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80														

AIRCRAFT	/	OF	/	
CODE SHEET	2	OF	19	

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 6

RECORD IDENTIFICATION											Weather Casual Factor				Facility Factor		Environ. Factor		Cause + Factor Primary						Cause + Factor 1st Possible												
Date			Type Report	Leg Line Number	Aircraft Number																																
Cal. Yr.	Mo.	Day																																			
68	01	29	1	05	41																		3		A	1	6	0									
Cause + Factor 1st Possible											Cause + Factor 2nd Possible				Cause + Factor 3rd Possible		Special Data and Conditions						Trans. Code	Card Number													
Misc			Misc			Misc			Misc																												
Wz			Fact Wz			Fact Wz			Fact																												
Pers			Factor Pers			Factor Pers			Factor Sub Ass'y.																												
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
																	J8B2D						A000														

CARD 8

											3M - Material Special Data										Measure. Prior To Check. (MIL-STD-883C)	MIL-STD-883C D.F.															
		First		Second		Third		Fourth		Fifth																											
		Gross Ref.	3M Howltdl Code	Gross Ref.	3M Howltdl Code																																
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49
		A26		I40		A38		T40		R36		N																									
															A000																						

AIRCRAFT 1 OF 1

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NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODING: _____ REVIEWED _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 11

RECORD IDENTIFICATION											Controlling LSO's Carrier Pass Description																																			
Date						Type Report	Leg Line Number	Aircraft Number	Start						Middle						In-Close						Bump																			
Cal. Yr.	Mo.	Day							Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position	Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position	Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position	Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position										
68	01	29				10501																																								
CLCPD (cont'd)											<div style="border: 1px solid black; width: 100%; height: 100%; display: flex; align-items: center; justify-content: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold; margin-right: 10px;">CARD 11</div> <div style="text-align: center;"> <p>TOUCH-DOWN</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Alt.</th> <th>Speed</th> <th>Speed Modif.</th> <th>Line-Up</th> <th>Line-Up Modif.</th> <th>Power</th> <th>Nose Position</th> <th>Trans. Code</th> <th>Card Number</th> </tr> </thead> <tbody> <tr> <td>41</td><td></td><td></td><td></td><td></td><td></td><td></td> <td></td><td></td> </tr> </tbody> </table> </div> </div>																		Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position	Trans. Code	Card Number	41								
Alt.	Speed	Speed Modif.	Line-Up	Line-Up Modif.	Power	Nose Position	Trans. Code	Card Number																																						
41																																														
41																																														

CARD 12

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50													
												<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>File or Serial Number (Pilot)</th> <th>Rank/Rate</th> <th>Br. of Service</th> <th>Age</th> <th>Yrs. D.M.A.</th> <th>State</th> <th>Position</th> <th>Inj. to Indiv.</th> <th>Abandon A/C</th> <th>Trans. Code</th> <th>Card Number</th> </tr> </thead> <tbody> <tr> <td>(b) (6)</td> <td></td> </tr> </tbody> </table>																		File or Serial Number (Pilot)	Rank/Rate	Br. of Service	Age	Yrs. D.M.A.	State	Position	Inj. to Indiv.	Abandon A/C	Trans. Code	Card Number	(b) (6)										
File or Serial Number (Pilot)	Rank/Rate	Br. of Service	Age	Yrs. D.M.A.	State	Position	Inj. to Indiv.	Abandon A/C	Trans. Code	Card Number																																									
(b) (6)																																																			
51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90												

AIRCRAFT 1 OF 1

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NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 17

RECORD IDENTIFICATION											Equip 5					Equip 6					Equip 7					Equip 8					Equip 9																	
Date			Type Report	Log Line Number	Aircraft Number	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date													
Cal. Yr.	Mo.	Day																																														
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42							
68	01	29																																														
											EA					J1					K5T					DC					B5T																	
Equip 10					Equip 11					Equip 12					Equip 13					Equip 14					Trans. Code	Card Number																						
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.			Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Person Sequence Number																
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80											
SA								LS						O1																																		

CARD 18

Equip 15					Equip 16					Equip 17					Equip 18					Equip 19					Equip 20																										
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date																
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49														
N	R																																																		
Equip 21					Equip 22					Equip 23					Equip 24					Trans. Code	Card Number																														
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed	Special	Date	Basic Equip.	Spec. Equip.			Problem or Condition	Phase Existed	Special	Date																										
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80																					

 PERSONNEL 1 OF 2

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NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 21

RECORD IDENTIFICATION											Equip 45				Equip 46				Equip 47				Equip 48				Card Code	ACFT necessary	Special Mishap	Type of Mishap	
Date			Type Report	Log Line Number	Aircraft Number	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Card Code					ACFT necessary
Cal. Yr.	Mo.	Day																													
68	01	29		05	01																					00	00	AKG			
Type of Egress			Eject. Info.			Egress Problems											Air-speed		Weight		Alt. Climb Open		Time in Water		Person Sequence Number		Trans. Code		Card Code		
						Prior			During			Subsequent															C				
						Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob	Prob
																	D D		91175		AG		01A		210						

CARD 22

Time in Refit		Verbal Provisions			Eject. Total Causes		Injury	Combat Zone	Card Code	Wind Velocity in Knts	Wave Height	Wave Interval in Seconds	Visibility	Air Temperature	Water Temperature	Alerting Factors			Located Site	Survivor Left Site	Means of Location			
						1st Factor										2nd Factor	3rd Factor							
12	13	14	15	16	17	Pri.	Sec.		67															
									01	04								E	H	A	D			
Survival Factors		Time Lapse From:			Time Lapse Last Training			Training Factors			Person Sequence Number		Trans. Code		Card Number									
		Mishap to Site Location			Mishap to Victim			Low Press. Chamber			Eject. Seat		Survival											
		PPPP			B						01A		220											

PERSONNEL 1 OF 2
 AIRCRAFT 1 OF 1

CODE SHEET 9 OF 19

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 23

RECORD IDENTIFICATION											CARD CODE	Time of Day				Rescue Vehicle		Rescue Vehicles				Rescue		Rescue		Rescue		Rescue		Rescue		Rescue		Rescue									
Date			Type Report	Log Line Number	Aircraft Number	48	Mishep	Rescue Report	Rescue Report	Rescue Report		ACC/ABAN	Location	Duty	Model/Type	Model/Type	Model/Type	Model/Type	No. Personnel To Rescue	No. Personnel Rescued	Model/Type	Model/Type	Actual Water Temperature	Actual Air Temperature	Actual Air Temperature	Wave Height	Wave Interval	Gen. W. Cond.	Wind Velocity (Knots)	Person Sequence Number	Trans. Code	Card Number											
Cal. Yr.	Mo.	Day																																									
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40				
68	01	29																																									
RESCUE TEAM TRAINING				COMM EQUIP TECH				RESTRIVE EQUIP/WORK F.				Rescue Site Topography				Alert Prob				Methods of Alert				Time Lapse Alert to Depart.				Departure Delays				Person Sequence Number				Trans. Code				Card Number			
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80				

CARD 24

CARD CODE	Time Lapse Alert to Locate	Prob. Enroute		Vehicle Failed To Reach Scene	Failure Reason	Time Lapse Locate to Reach	Locator Means		Prob. Locating	Survivors Signalling Problems	Rescue Problems						Rescue Problems																										
		Prob	Prob				Primary								Vehicle	Individual	Problems				Vehicle	Individual	Problems																				
		12	13														14	15	16	17			18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
0	0																																										

PERSONNEL 1 OF 2

AIRCRAFT 1 OF 1

CODE SHEET 10 OF 19

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 15

RECORD IDENTIFICATION											Emerg. Syst. Train.		Instrument Trainer		Time All Models		Time This Model		Number of Carrier →																												
Date			Type Report	Log Line Number	Aircraft Number	Last 6 Months	Last 12 Months	Last 6 Months	Last 12 Months	Total	Last 3 Months	Total	Last 3 Months	Inst. Hours Last 3 Months	Inst. Hours Last 3 Months	Total Jet or Helo Time	Total	Bay	Mile	Total Bay This Model	Total Mile This Model																										
Cal. Yr.	Mo.	Day																																													
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42						
68	01	29	1	05	01																																										
This Model Day Last 30 Days		This Model Mile Last 30 Days		This Individual in Act.		Name (Include PW in Other Act.)										Number of Personnel Records		Trans. Code		Card Number																											
43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90

CARD 16

File or Serial Number (All Persons)																			Name																			Rank/Rate	Dr. of Service	Age	Yrs. Exper.	Status	Position	Inf. to Incl.	Abandon A/C	Card Code	SS	
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
(b) (6)																																						665				32B2						
Equip 1					Equip 2					Equip 3					Equip 4					Person Sequence Number	Trans. Code	Card Number																										
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Initiated	Special Data																													
H					AA					E2					E4					024	100																											
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100									

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AIRCRAFT 1 OF 1

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NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 17

RECORD IDENTIFICATION											Equip 5					Equip 6					Equip 7					Equip 8					Equip 9											
Date			Type Report	Log Line Number	Aircraft Number	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data	Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data													
Col. Yr.	Mo.	Day																																								
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
6	8	0	1	2	9	1	4	5	P	1	J	1																														

Equip 10					Equip 11					Equip 12					Equip 13					Equip 14					Person Sequence Number	Trans. Code	Card Number														
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data																		
42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80			
0	1								S	1					S	2																									

CARD 18

Equip 15					Equip 16					Equip 17					Equip 18					Equip 19					Equip 20																	
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data														
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49					

Equip 21					Equip 22					Equip 23					Equip 24					Person Sequence Number	Trans. Code	Card Number																					
Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data		Basic Equip.	Spec. Equip.	Problem or Condition	Phase Existed Special Data																									
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88					

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NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 23

RECORD IDENTIFICATION											CARD CODE	Time of Day				Rescue Vehicle		Rescue Vehicles				Actual Water Temperature	Actual Air Temperature	Wave Height	Wave Period	Gen. Wz. Cond.	Wind Velocity (Knots)	Rescue Equip. Used													
Date			Type Report	Log Line Number	Aircraft Number	Mishap	Rescue Report	Rescue Locs	ACC/ABAN	Location		Duty	Model/Type	Model/Type	Model/Type	Model/Type	No. Personnel To Rescue	No. Personnel Rescued	Model/Type	Model/Type	Actual Water Temperature							Actual Air Temperature	Wave Height	Wave Period	Gen. Wz. Cond.	Wind Velocity (Knots)									
Cal. Yr.	Mo.	Day																																							
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40		
6	8	0	1	2	9	1	0	5	0	1	0	0	1	1	1	1	H	T	3	P	A	K	2	2																	
RESCUE TEAM TRAFFIC	COMM EQUIP/ TECH	RETRIEV EQUIP/ TECH	RESCUE TEAM WORK P.	Rescue Site Topography	Res. Vehic. Dist. to Scene	Time Lapse Mishap To Alert	Alert Prob	Methods of Alert	Departure Delays	R										Person Sequence Number	Trans. Code	Card Number																			
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		
								A							H																										

CARD 24

CARD CODE	Time Lapse Alert to Locate	Prob. Errors		Vehicle Failed To Reach Scene	Failure Reason	Time Lapse Locate to Reach	Locator Means			Prob. Locating	Survivors Signalling Problems	Rescue Problems						Rescue Problems																							
		Prob	Prob				Primary					Vehicle	Individual	Problems				Vehicle	Individual	Problems																					
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49				
0	0	0	7																																						
Rescue Problems				Rescue Problems				Rescue Close Out				Person Sequence Number				Trans. Code				Card Number																					
Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual	Vehicle	Individual		
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88			

 PERSONNEL 2 OF 2

 AIRCRAFT 1 OF 1

 CODE SHEET 16 OF 19

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: _____ REVIEWED: _____ LOGGED: _____ PUNCHED: _____ VERIFIED: _____

CARD 29

RECORD IDENTIFICATION											Other Factors To Be Considered																													
Date			Type Report	Leg Line Number	Aircraft Number	MIST INVEST. WRONG COMT.	CONTR. OF COMPT. OTHER	Mixed Instruments	MISHAP/PROPERTY INSTRUMENTS	MISLED BY PAUL INSTRUM.	VIS. REPT. BY EQUIP. STRUCT.	Tank Over-Subersion	Inadequate Good/Timing	Miscellaneous Speed/Dist.	Wrong course or ACTION	DELAY TAKING RIG ACTION	VIOLATION OF M.Y. INSTR	Navigation/Errors	Inadvertent Operating	Other	CARD CODE 77	Disposition	Body Position	Direction Facing	Visual Acuity	HEaring	Crank/Fuel/Fuel/Fuel	Instruments	SIGNAL	Unintentional	Infectious	Respiratory	Urge/renal	Other	Abnormal	Abnormal	Abnormal	Abnormal		
Cal. Yr.	Mo.	Day																																						
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
68	01	29																				77																		
Estimated Duration of Grounding		Pr. Cause of Death Diagnosis Number			Autopsy		Lab Toxicological Test On				Infernal Injury		Cerebral Concussion		Facial Injuries		Intra Oral Injuries		Eye Injuries		Person Sequence Number		Trans. Code		Card Number															
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
10	0															8	7	0	2																					

CARD 30

Fractures																	Dis-Locations																								
Group A					Group B												Group A					Group B																			
Cranial or Nose	Facial	Cervical	Thoracic	Lumbar	Sacral	Coccygeal	Shoulder Girdle	Rib	Pelvis or Hip	Upper Arm	Lower Arm	Mand Incl. Fingers	Upper Leg	Lower Leg	Foot Incl. Toes	Other Fractures	Jaw or Teeth	Cervical Vertebrae	Thoracic Vertebrae	Lumbar Vertebrae	Verberal	Sacral	Coccygeal	Shoulder Girdle	Ribs	Pelvis	Shoulder or Hip	Elbow	Wrist	Hand Fingers	Hip	Knee	Ankle	Foot Toes	Other Dis-locations	CARD CODE 77					
12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49				
			4																																				1	0	

Amputations/Avulsions				Soft Tissue Injuries															Person Sequence Number	Trans. Code	Card Number																		
HEAD, NECK OR NOSE	Trunk	Upper Extrem.	Lower Extrem.	Group A					Group B																														
HEAD, NECK OR NOSE	Trunk	Upper Extrem.	Lower Extrem.	LACERATIONS OR NONE	C.S.S. Head	A. sions Head	LACERAY	C.S.S. Neck	Abrasions Neck	LACERAY	THORAX	C.S.S. Thorax	ABRASIONS	THORAX	LACERATIONS	ABDOM/NONE	C.S.S. Abdomen	Abrasions Abdomen	LACERAY	C.S.S. UP EXTREME	ABRASIONS UP EXTREME	LACERAY	LOW EXTREME	C.S.S. LOW EXTREME	ABRASIONS	LOW EXTREME	Other S.Y. Injuries	Aphyasia Suspected											
50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86			

 PERSONNEL 2 OF 2

 AIRCRAFT 1 OF 1

 CODE SHEET 18 OF 19

NAVAVNSAFECEN MISHAP CODE SHEET

(COMMON TO BOTH CARDS)

CODED: ___ REVIEWED ___ LOGGED: ___ PUNCHED: ___ VERIFIED: ___

CARD 31

RECORD IDENTIFICATION											Control Characters															Personnel System Identifier		Trans. Code	Card Number												
Date			Type Report	Log Line Number	Aircraft Number	Asphyxiation Established	Shock Reported	Exposure	Burns/ Frostbite																																
Cal. Yr.	Mo.	Day																																							
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	024	310
68	0	1	2	9	1	0	5	0	1																																
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80		

(THIS SPACE BLANK)

PERSONNEL 2 OF 2
 AIRCRAFT 1 OF 1
 CODE SHEET 19 OF 19

I.D. Number		680129105					3	N N N			1484				13		A		
1 2	3 4	5 6	7	8 9	10		13	14	15	69	70	71	72	73	75 76	77	78		
Yr.	Mo.	Day	Typ	Log	Typ Brief		Narr File I.D.			CL				Orig. Use		Tot. Cds		Trans. Code	

Common Fields to All Cards

CLASS CODE
 1 - Non-Class
 2 - Conf.

TYPE BRIEFS
 1 - GEN. HISMAP
 2 - BIO-MKD
 3 - SAF-SURV
 4 - PSYCHO

CARD NO. CODED HWP REVIEWED _____ KEY PUNCHED _____ VERIFIED _____

11 12	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
01	EJT LAND. PLT APPROX 50 FT, RIO 20 FT 175 KTS. PLT 02
02	EMERG HOSE PULLED FREE AT LOWER BLOCK ASSY. NO OTHER
03	EQUIP MAL. INVESTIGATION REVEALED INADEQUATE RESCUE
04	FACILITIES. ONE OF 2 HELOS WAS AWAY ON A MISSION. THE
05	OTHER WAS AOCF FOR AN INDEFINITE PERIOD. PROCUREMENT
06	OF PARTS WAS SAID TO BE ALMOST IMPOSSIBLE. MCAS BEAU
07	FORT IS SURROUNDED BY SWAMP, MARSH & WATER. MANY AREA
08	S CAN ONLY BE REACHED BY HELO OR BOAT. NO BOAT IS AVA
09	ILABLE. IN THIS ACDT A USCG HELO OPERATING IN THE AREA
10	A WAS DIVERTED TO THE RESCUE. NEITHER THE PLT OR RIO
11	16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68
11	HAD A SURV RADIOD. RECM EXTENSIVE UPDATING OF SAR FACI
12	LITIES AT BEAUFORT, SURV RADIODS BE MADE AVAILABLE FOR
13	ALL AIR CRMN.
14	
15	
16	
17	
18	
19	
20	

CARD NO.

512:KMI
10 July 1969

MEMORANDUM

From: Head, Technical Review and Central Coding Branch, Records Division
To: Head, Aircraft Analysis Division

Subj: Decision concerning preparation of formal close out letter;
request for

Ref: (a) Code 51 memo of 26 June 1969

Encl: (1) ORIGINAL of VFFA-312 AAR Serial 5-68 concerning
(Unit)

F4B BUND 148401 accident occurring
(Aircraft Model)
29 January 1968 pilot (b) (6)
(Date of mishap)

1. Enclosure (1) is forwarded in accordance with reference (a) requesting decision concerning preparation of a formal close out letter.

Very respectfully,

(b) (6)

FIRST ENDORSEMENT

From: Head, Aircraft Analysis Division
To: Head, Technical Review and Central Coding Branch

1. Enclosure (1) is returned. DO **DO NOT** process for preparation of formal close out letter.

NAVAL AVIATION SAFETY CENTER
NAVAL AIR STATION
NORFOLK, VIRGINIA 23511

62/pe
20 March 1968

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6F

FOR OFFICIAL USE ONLY

NAVAVNSAFECEN INVESTIGATION 49-68

- Ref: (a) NAVAIRSYSCOMHQ msg 162229Z Mar 67
(b) NAVAIRSYSCOMREPAC ltr dtd 21 Apr 67, FRR-3323/HFH:PFH
(c) NAVAVNSAFECEN msg 012045Z Aug 67
(d) NAVAIRSYSCOMHQ PMA 32-11:AP of 17 Jan 68

1. INTRODUCTION

a. The Accident. F-4B, BUONO 148401, assigned to MARINE FIGHTER ATTACK SQUADRON THREE ONE TWO (VMFA-312) stationed at Marine Corps Air Station (MCAS), Beaufort, North Carolina, crashed and burned approximately one mile short of runway 22 MCAS, Beaufort on 29 January 1968 at 1618 (R). The pilot, MAJ (b) (6) USMC, (b) (6) and the Naval Flight Officer (NFO), 1ST LT (b) (6) USMC, (b) (6) successfully ejected, however, the latter received major injury. The aircraft sustained ALFA damage. There was minor damage to government property and no damage to private property.

b. Synopsis of Flight. The aircraft was part of a scheduled two plane air intercept flight. Approximately one hour after takeoff the pilot of the other aircraft in the flight reported a fire warning light. The scheduled tactics were discontinued and both aircraft proceeded to MCAS, Beaufort. After assuring that the other aircraft was safely on the ground, MAJ (b) (6) took a wave-off using military power and climbed to 8000 feet AGL. He dove the aircraft to 2000 feet AGL obtaining a speed of approximately 450 knots for the purpose of demonstrating a high energy climb. As the aircraft leveled off at approximately 2000 feet AGL both crew members heard an explosion. The pilot retarded the throttles to idle and began a gradual climb. At this time the left fire warning light began to flicker. Following MATOPS procedures the engine was secured. The pilot called for a straight-in landing to runway 22 at MCAS, Beaufort from approximately 6 miles out at an altitude of 2500 feet. Approximately three miles out, with 1000 to 1200 feet of altitude, the landing gear was lowered and one-half flaps selected. As the aircraft approached two miles, at 700-800 feet of altitude, the NFO reported thick white smoke coming from the intakes and louvers of both engines and that numerous circuit breakers were popping in the rear

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Enclosure (1)

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NAVAVNSAFECEN INVESTIGATION 49-68

The last calendar check was completed on 11 November 1967 and since that time the engine had operated 159 hours.

(5) Weather. Weather was not a factor in this accident.

b. Field Investigation

(1) At impact the aircraft broke into four sections:

(a) The cockpit area and nose section continued 500 feet up the flight path.

(b) The middle fuselage section containing both engines rolled out of the impact hole about ten feet along the flight path.

(c) The tail section came to rest just forward of the engine fuselage section.

(d) The wing section remained in the impact hole.

(2) The engines were disassembled and inspected in the field, with the following results:

(a) The port engine was not operating at impact. The pilot stated he had secured the engine in the air because of a fire warning light. There was no evidence to indicate any component failure or in-flight fire.

(b) The starboard engine rpm at impact was approximately 65 to 70 percent. The exhaust nozzle was in the full open position. Indications were that the engine was in a stalled condition at impact, probably caused by injection of smoke and/or raw fuel through the intake. Examination showed no evidence of any component failure or in-flight fire.

(3) There were no control malfunctions.

(4) Approximately ninety-five percent of the bleed air ducting was recovered. All pieces of transition duct area, P/N 10624-22, were shipped to Naval Plant Representative Office, St. Louis, for metallurgical analysis by the prime contractor.

(5) Review of previous yellow sheets revealed that two flights

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NAVAVMSAFECEN INVESTIGATION 49-68

prior to the accident a similar port engine fire warning light malfunction was experienced. Maintenance records indicated that this discrepancy was corrected by tightening the cannon plug on the fire warning amplifier. On the flight prior to the accident nothing unusual was noted. The ground check of the fire warning system prior to takeoff was reported as normal.

(6) The wire bundle containing the fire warning system passes through the center fuselage between the number two fuselage cell and the center wing section. Access to this bundle is through doors #22, 34 and 134. It joins various other wire bundles on the right hand side of the cockpit area running through the amplifier to the warning lights in the front cockpit. The wiring in the center fuselage section could not be identified. However, the wiring from the right hand cockpit area was identified as the fire warning circuitry and indicated extreme burning from an external source. The wire insulation was brittle and many cracks and weak spots were noted. It was not possible to determine the exact condition of the wiring before impact and subsequent fire.

(7) Access to the bleed air duct assembly in the center fuselage system is through doors 22 and 34. This assembly and the fire warning system wiring are in the same area. (FS. 249.65 approximately)

c. Disassembly Inspection

(1) The prime contractor (McDonnell Douglas Corporation) metallurgical analysis on the bleed air ducting, P/N 10624-22 and P/N 10624-19, revealed that the mode of failure was fatigue. Seven areas of fatigue were found in the weld sections of the transition portion of the part.

(2) The material met all specifications required of the metal.

(3) This aircraft was manufactured with thin wall bleed air ducting as compared to later models.

d. Other Investigations

(1) In March 1967 Naval Air Systems Command Headquarters, by reference (a), directed Naval Air System Command Representative Pacific to conduct tests to determine the best method of discovering potential bleed air duct failure areas during the PAR cycle for F-4 aircraft. Two

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methods were tested:

(a) A hydrostatic system recommended by McDonnell Douglas utilizing water under pressure.

(b) An ultrasonic system utilizing high pressure air and listening devices. Reference (b) recommended the adoption of the ultrasonic system. Commander, Naval Aviation Safety Center concurred in reference (c) and urged adoption and procurement on an emergency basis.

(2) At the present time neither of the above systems are used to check the bleed air ducting in F-4 aircraft during the PAR cycle.

e. Sequence of Events. The flight of F-4B, BUHO 148401, was apparently normal up to the wave-off at MCAS, Beaufort. A climb to 8000 feet altitude at 95 percent rpm was completed. As the aircraft descended to 2000 feet, increasing speed to 450 knots, an explosion was heard by the crew, which probably was the bleed air duct, P/N 10524-22, rupturing along the various welds. This rupture or explosion of the bleed air duct in the center fuselage section would allow hot air somewhere between 546-779°F to flow into an area where fuel and hydraulic lines are concentrated. The explosion probably shorted out the left fire warning light which gave a flickering indication in the cockpit. When the pilot retarded the throttle the light did not go out and so he secured the engine as recommended by the NATOPS manual. There were no other instruments that indicated malfunction and the engine was probably functioning properly when it was secured. As the aircraft commenced a climb, a fire was burning in the center fuselage section in the F.S. 249.65 area. This fire was either a fuel or hydraulic fire, or a combination of both. The fire burned the wire bundles on the right side of the cockpit area, causing various circuit breakers in the rear cockpit area to pop while smoke entered the cockpit. The NFO reported that heavy gray/white smoke was coming from the top engine louvers and intakes. The pilot noted heavy smoke on the right side. The smoke was probably heavier on the right side because of the venturi effect of that engine still pulling air through the intake. As the aircraft decelerated to 250 knots, the landing gear and one-half flaps were lowered. With the landing gear down and the auxiliary air doors open the extra air increased the flow of smoke and possibly fuel and/or hydraulic fluid into the engine intake. At approximately 500 feet the pilot noted an extreme sink rate, sloppy controls and a

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series of rapid explosions. The right hand throttle was advanced with no corresponding increase in thrust. It is probable the engine was experiencing a series of stalls with accompanying explosions. Recognizing this extreme condition, the pilot ordered the WFO to eject and then ejected himself. At impact it is probable that the aircraft was in a fully stalled condition.

3. CONCLUSIONS

a. The most probable cause of this accident was the failure of the bleed air duct transition section, P/N 10624-22. The cause of the failure was fatigue originating in the welds.

4. ACTION PENDING

a. The Maintenance and Material Department of the Safety Center is preparing a letter to Chief of Naval Operations restating the bleed air duct problems in F-4 series aircraft and strongly recommending expedient incorporation of Engineering Change Proposals (ECP's) 754, 769 and 817. These ECP's incorporate stronger bleed air ducting, a bleed air failure warning system, and a bleed air shutoff valve. Their incorporation should prevent this type of accident.

b. Naval Air Systems Command Headquarters is in the process of procuring ultrasonic leak detectors for testing bleed air ducting during the F-4 PAR cycle. Reference (d) states that these testers will be available in November 1968.

5. RECOMMENDATIONS. None.

Distribution:
List "A"
CNO (Op-05F)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6F

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DEPARTMENTAL COMMENTS FOR "CLOSE OUT" LETTER
ON ORIGINAL REVIEW

- NOTE:
1. Negative report is required.
 2. Positive comments will be in a format suitable for inclusion in the "close out" letter.
 3. Attach additional sheets if more space is required.

M&M DEPARTMENT:

THE CAUSE OF THIS ACCIDENT HAS BEEN RECORDED INDICATING MATERIAL FAILURE OF THE BOUNDARY HEAT EXCHANGER SYSTEM DUCTING AS THE SINGLE CAUSE FACTOR

80315

A / 731
INITIAL/CODE

AERO-MED DEPARTMENT:

Concur with conclusions & recommendations of M&M & crew & endorse. M/32

20/31

INITIAL/CODE

COMPLETION SHEET

Action to: Correction to:	Action Required	Completed Code/Date
3750-1		/
DIR		/
Misc Items for Action or Correction		

To Code	From Code/Date		
	5111 6/26/69	ORIGINAL REC'D rdb	/
511	512 8-13-69	Final review and close out completed. Please file in closed file. <i>VR</i>	/
	/		/
	/		/
	/		/
	13 AUG 1969	CLOSED	/
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	/		/

UNIT VAFB-312
 MODEL F4B
 BUNO 14941

AAR REVIEW ROUTING SHEET

ADVANCE ROUTING

PRI	DEPT	DATE IN	DATE OUT	INIT	INTER DEPT. ROUTING:
	M&M		4-18-66	O	
	AERO-MED	18 APR 66			Roa

DEPARTMENT REPRESENTATIVES INITIALS FOR RECEIPT OF REPORTS:
 REMARKS:

ORIGINAL ROUTING

DEADLINE DATE OUT OF NASC _____
 EXTENSIONS _____

DEPT	DATE IN	DEPT DEADLINE	DATE OUT	INIT	INTER DEPT ROUTING
AGA	11 July		14 July		

NASC ENDORSEMENT ROUTING

PRI	DEPT	DATE IN	DATE OUT	INIT
1	R&S			
2	M&M			
3	ADMIN			

ROUTING AFTER CLOSEOUT

DEPT	DATE IN	DATE OUT	INIT	INTER DEPT ROUTING
AEROMED				

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 2. Departments will be fully responsible and accountable for documents in their custody until checked back into Records Control Branch.
 3. Any department desiring to retain this report longer than five (5) working days must notify Records Control Branch of their need for extension.

DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND REPRESENTATIVE
ATLANTIC
U. S. NAVAL AIR STATION
Norfolk, Virginia 23511

2361/13210/5/11
26 MARCH 1968

From: Naval Air Systems Command Representative, Atlantic
To: Distribution List

Subj: Model F-4 Aircraft; Metallurgical Analysis of Bleed Air Ducts P/N 10624-19
and -21; NAVAIRSYSCOMREPLANT Control Number F4-13-08

Encl: (1) McDonnell Douglas Corp ltr NAVPRO-350F4-80360 of 20 March 1968

1. Enclosure (1) is forwarded for information.

(b) (6)

By direction

Distribution List:
COMNAVANTLANT
NAVAIRSAFECEK
CG FMFLANT
CG SECOND MAW
MARAIRCRU THREE TWO
MARFITATKRON THREE ONE TWO
NAVAIRSYSCOMREPLANT

3004357 Jan
MCDONNELL DOUGLAS



20 MAR 1968
NAVPRO-35074-80380

Naval Plant Representative Office (ENAM-3)
c/o McDonnell Company
P. O. Box 516
St. Louis, Missouri 63166

Subject: Model F-4 Aircraft; Metallurgical Analysis of Bleed Air
Ducts P/N 10624-19 and -21; NASCREPLANT Contr. No. F4-13-68

References: (a) NASCREPLANT message 131922Z February 1968
(b) ECP 817 - Bleed Air System Improvements, Retrofit of
(c) ACCB 81-350 dated 22 November 1967
(d) MDC letter 730-350-71979 dated 30 March 1967

1. Reference (a) requested that the Contractor perform a metallurgical analysis on the damaged subject ducts from F-4B aircraft, Bu.No. 148401. Failure in the bleed air system is stated as a possible cause of an inflight fire and subsequent loss of the aircraft.
2. The Contractor's analysis of the P/N 10624-19 duct revealed no evidence of a fatigue failure. The mode of failure on this part was that of a ductile fracture, thus indicating that the damage was caused by impact of the aircraft with the ground.
3. Analysis of the P/N 10624-21 duct revealed that the failure occurred in the heat-affected zone of the half shell weldment. The mode of failure was fatigue. The initiating cause of the fatigue could not be determined since there were several fatigue origins. No metallurgical deficiencies were revealed by metallographic examination.

- 4. Reference (b) ECP recently has been approved (Reference (c)) to retrofit Block 6 through 8 aircraft with improved ducts similar to those installed on aircraft in Block 9 and subsequent. In addition, the Contractor again recommends periodic hydrostatic testing (Reference (d)) of high-time BLC ducting; this recommendation is based on findings of leakage in eight high-time F-4B's, prior to Block 9, belonging to WPA-312, which the Contractor has recently hydrostatically tested.

MCDONNELL COMPANY, St. Louis

(b) (6)

Project Engineer F-4B/J

PAC:slh

NAVAIRSYSCOMHQ (AIR-5102F)
 NAVAIRSYSCOMHQ (AIR-FMA32)
 NAVAIRSYSCOMREPLANT
 ASD, (ASZMK), WPAFB, Ohio (6)
 OOAMA (CONFT), Hill AFB, Utah
 OOAMA (CONEW), Hill AFB, Utah

1ST ENDORSEMENT

SER. NO. *FNAM-3/1739* DATE: 25 MAR 1968

FROM: NAVAL PLANT REPRESENTATIVE
 McDonnell Douglas Corporation
 St. Louis, Missouri
 TO: *COMMANDER, NAVAIRSYSCOMREPLANT*

ENCL: _____
 Forwarded, & Read addressed.
 _____ Forwarded for action.
 _____ Forwarded recommending approval.

Copy To:
 McDonnell Douglas Corporation
 St. Louis, Missouri
 NAVAIR (AIR-5102F)
 ASD (ASZMK)
 OOAMA (CONEW/CONFT)
 NAVAIRSYSCOM REPLANT
 COMNAVAIR LANT
 NAVAVNCAFELAN
 C&F LANT

J. E. GILES, JR.
By direction

Copy To:
 CG Second MAW
 MAR AIR GRU 32
 MAR FIT ATKRON 32

AIR-09221:MLC
20 JUN 1969

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

NINTH ENDORSEMENT on VMFA-312 AAR serial 5-68A concerning F-4B BuNo 148401 accident occurring 29 January 1968, pilot (b) (6)

From: Commander, Naval Air Systems Command

To: Commander, Naval Safety Center

Subj: Aircraft Accident Report

1. Forwarded.
2. The current status of F-4 Airframe Changes which involve BLC improvements is as follows:
 - a. AFC-393, Heavier Material in Bleed Air Ducting in Number Two Fuel Cell Area. Estimated date for initial kit delivery is July 1969.
 - b. AFC-439, Bleed Air Leakage Warning System. Estimated date for initial kit delivery is June 1970.
 - c. AFC-440, Master Bleed Air Shut Off Valve. Estimated date for initial kit delivery is July 1970.
3. Hydrostatic test equipment for the bleed air ducting is on order and initial deliveries are scheduled for late 1969. In addition, investigation of an inert gas leak detection system is in progress. If results of this investigation are favorable, this system may serve as an additional aid in bleed air maintenance.
4. It is believed that the following action will result in satisfactory service of the bleed air system.
 - a. Incorporation of design changes upon availability of kits.
 - b. Periodic system integrity checks utilizing hydrostatic or inert gas testers.

AIR-OPER:REC

20 JUN 1968

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

Subj: Aircraft Accident Report

c. Careful maintenance of the system at all maintenance levels. Several squadrons that experienced bleed air system failures instituted strict maintenance programs resulting in essentially a zero failure rate.

(b) (6)

By direction

Copy to:
COMNAVIAIRLANT
CNC (Code AAP)
CG 2nd MAW
CG FMFIANT
CG MCABE
CG MCAS BEAUFORT
CG MAG-32
CG VMFA 312
CG NAVALEROCRECOVPAC
NAVFRO ST. LOUIS

CHAL 002

Ser: 3401

9 MAY 1968

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

EIGHTH ENDORSEMENT on VMFA-312 serial 5-68A, concerning F-4B, BuNo 148401, accident occurring 29 January 1968, pilot (b) (6)

From: Commander Naval Air Force, U. S. Atlantic Fleet
To: Commander, U. S. Naval Aviation Safety Center
Via: Commander Naval Air Systems Command

Subj: Aircraft Accident Report

1. Readdressed and forwarded, for review and appropriate action as requested by seventh endorser.
2. Naval Air Systems Command is requested to advise all concerned of the present status of and future plans for test equipment capable of detecting bleed air system leaks in F4 aircraft.

(b) (6)

✓ By direction

Copy to:
NAVAVNSAFECEN (2)
CMC (Code AAP)
CG 2nd MAW
CG FMFLANT
CG MCABE
CO MCAS BEAUFORT
CO MAG-32
CO VMFA 312
NAVAIRRECOVFAC
NAVPLANTREPO ST. LOUIS

14/JRP/jar
18 APR 1968

SEVENTH ENDORSEMENT on VMFA-312, accident, serial 5-68A,
concerning F-4B BuNo 148401, of 29 January 1968, pilot (b) (6)

From: Commanding General, Fleet Marine Force, Atlantic
To: Commander, Naval Aviation Safety Center
Via: Commander, Naval Air Force, Atlantic

Subj: VMFA-312 AAR 5-68A

1. Readdressed and forwarded, concurring with the conclusions and recommendations of the board and the comments of subsequent endorsers.
2. This accident was caused by the fatigue failure of the bleed air duct therefore it is requested that the Commander, Naval Air Force, Atlantic forward this report to the Commander, Naval Air Systems Command for review and appropriate action.
3. The need for adequate SAR facilities at MCAS, Beaufort, S. C., cannot be overemphasized and early resolution of this problem is requested.
4. All VMFA-312 aircraft are now equipped with PRC-63 survival radios.



GEORGE S. BOWMAN JR.
Deputy Commander

Copy to:
NAVAVNSAFCEN (2)
NAVAIRSYSCOM (AIR-404)
CMC (Code AAP)
COMNAVAIRLANT
CG, 2D MAW, FMFLANT
CG, MCABE
NAVPLANTREPO, ST LOUIS
NAVAIRRECOVFAC
CO, MCAS, BEAUFORT
CO, MAG-32
CO, VMFA-312

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST
3750.6 SERIES

ORIGINAL

42:TER:jfr
3750
6 APR 1968

SIXTH ENDORSEMENT on VMFA-312, accident, serial 5-68A, concerning F-4B BuNo 148401, of 29 January 1968, pilot (b) (6)

From: Commanding General, 2d Marine Aircraft Wing
To: Commander, Naval Aviation Safety Center
Via: Commanding General, Fleet Marine Force, Atlantic

Subj: VMFA-312 AAR 5-68A of 29Jan68, involving F-4B 148401, pilot (b) (6)

Ref: (a) COMCABEAST ltr 123:GHK:sb over 13100 of 2Mar68
(b) NAVPLANTREPO McDonnell Douglas (ENAM-3) ltr NAVPRO-350P-480380 of 20Mar68

1. Forwarded, concurring with the conclusions and recommendations of the board as modified by subsequent endorsements, subject to the following:

a. Reference (b) identifies the primary cause of this mishap as a fatigue failure of bleed air duct P/N 10624-21.

b. It is recommended that ECP 817 - retrofit of bleed air systems - be incorporated on a priority basis.

c. This costly accident could have been prevented by a bleed air warning system and a manual bleed air shut off system. Therefore it is recommended that immediate action be taken to incorporate these systems as soon as possible.

d. Cammabalisation of aircraft is not in accordance with good maintenance procedures. It is therefore recommended that reference (a) be given favorable consideration to alleviate helicopter rescue deficiencies at MCAS Beaufort and MCAS Cherry Point.

2. By copy of this endorsement, CO MAG-32 is requested to forward to COMNAVAIRSYSCOM and COMNAVAVNSAFECEN a report concerning conclusions and recommendations of hydrostatic tests conducted on BLC systems.


H. M. ELWOOD

Copy to:
NAVAVNSAFECEN (2)
NAVAIRSYSCOM (AIR-404)
CMC (CODE AAP)
COMNAVAIRANT
CG FMFLANT
CG MCABE

NAVPLANTREPO
NAVATRECOVPAC
CO MCAS BEAUFORT
CO MAG-32
CO VMFA-312

SPECIAL HANDLING IN ACCORDANCE WITH OPNAV INSTRUCTION 3750.6 SERIES

ORIGINAL

ORIGINAL

123:GHK:sb
3750

22 MAR 1968

FIFTH ENDORSEMENT on VMFA-312, accident, serial 5-68A, concerning F-4B BuNo 148401, of 29 January 1968, pilot (b) (6)

From: Commanding General, Marine Corps Air Bases East
To: Commander, Naval Aviation Safety Center
Via: (1) Commanding General, Second Marine Aircraft Wing
(2) Commanding General, Fleet Marine Force, Atlantic

Ref: (a) COMCABEAST ltr 123:GHK:sb over 13100 of 8 Mar 68

Subj: VMFA-312 AAR 5-68A of 29JAN68, involving F-4B 148401, pilot (b) (6)

1. Readdressed and forwarded subject to the following comments.
2. The opinions expressed in the accident report and subsequent endorsements thereto concerning inadequacy of search and rescue service at MCAS Beaufort are concurred with. Operational readiness of the UH-2B helicopters has been poor because of inadequate spare parts support, and with only two helicopters assigned, it is inevitable that at times both aircraft will be out of commission.
3. By reference (a) the Chief of Naval Operations has been apprised of the inability of this command to provide a continuous SAR capability at MCAS Beaufort or MCAS Cherry Point with the UH-2B helicopter. Reference (a) further requested that consideration be given to replacement of UH-2B helicopters with helicopters which are organic to the Marine Corps and for which more adequate supply support is available; or to provide relief by assignment of an additional UH-2B to each location and initiate special supply support at these locations.

(b) (6)

UNCLAS OR SUEK

Copy to:
NAVAVNSAFCE (2)
NAVAIRSYSCOM (AIR 404)
CMC (CODE AAP)
COMNAVAIRLANT
CG FMFLANT
CG MCABE
NAVPLANTREPO
NAVAIRECOVFAC
CO MCAS BEAUFORT
CO MAG-32
CO VMFA-312

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INSTRUCTION 3750.6 SERIES

ORIGINAL

ORIGINAL

42:GHD:jfr
3750
19 March 1968

FOURTH ENDORSEMENT on VMFA-312, accident, serial 5-68A, concerning F-4B BuNo 148401, of 29 January 1968, pilot (b) (6)

From: Commanding General, Second Marine Aircraft Wing
To: Commander, Naval Aviation Safety Center
Via: (1) Commanding General, Marine Corps Air Bases East
(2) Commanding General, Second Marine Aircraft Wing
(3) Commanding General, Fleet Marine Force, Atlantic

Subj: VMFA-312 AAR 5-68A of 29JAN68, involving F-4B 148401, pilot (b) (6)

1. Readdressed and forwarded.
2. By copy of this endorsement, Commanding General Marine Corps Air Bases East is requested to comment on those aspects of this report relating to SAR Helicopter services and forward via this command.


H. M. ELFORD

Copy to:
NAVAVNISAFGEN (2)
NAVAIRSYSCOM (AIR 404)
CMC (CODE AAP)
COMNAVAIRLANT
CG FMFLANT
CG MCABE
NAVPLANTREPO
NAVAIRRECOVFAC
CO MCAS BEAUFORT
CO MAG-32
CO VMFA-312

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INSTRUCTION 3750.6 SERIES

ORIGINAL

AO:RES:mjp
3750
6 March 1968

THIRD ENDORSEMENT on VMFA-312 AAR 5-68A of 29Jan68, involving F-4B 148401, pilot (b) (6)

From: Commanding Officer, Marine Corps Air Station, Beaufort, South Carolina

To: Commander, Naval Aviation Safety Center

Via: (1) Commanding General, 2d Marine Aircraft Wing
(2) Commanding General, Fleet Marine Force, Atlantic

Subj: VMFA-312 AAR 5-68A of 29Jan68, involving F-4B 148401, pilot (b) (6)

1. Forwarded with the following comments.
2. MCAS Beaufort, at present, operates two UH-2B helicopters as it's only search and rescue capability. On 29 January 1968, the only operating search and rescue helicopter was undergoing a calendar inspection. The other SAR aircraft was AOCF.
3. Extensive study and practical experience in operating two UH-2B aircraft as the only SAR capability at MCAS Beaufort, has pointed out conclusively that supply attendant to the upkeep of these two aircraft is at present, and has been for the past year unacceptable.
4. Due to the lack of parts for the UH-2B, it has become mandatory to cannibalize one aircraft to keep the other operational. This results in excessive downtime on one aircraft and accounts for much of the not operational ready time. A direct result of this cannibalization is excessive manhours expended in order to keep one UH-2B in an up status.
5. In April of 1967, assistance was requested from Kaman Logistics Representative. During his visit he recommended that the Navy Supply System be required to stock Section "B" items for the UH-2B aircraft at MCAS Beaufort. Navy Supply has been unsuccessful in its efforts to stock these items due to the scarcity of parts in the Naval System.
6. Commanding Officer, Marine Corps Air Station, Beaufort, has forwarded by separate correspondence to COMCAREAST amplifying information regarding the large gaps in local SAR capability resulting from the not operationally ready time of the UH-2B helicopter. Assistance has been requested from COMCAREAST.

3750

6 March 1968

7. In the interest of Aviation Safety, it is difficult for this Command to comprehend the continued existence of a type of aircraft in the important role of SAR that is logistically supported in a less than satisfactory manner.



L. H. STEMAN

Copy to:

NAVAVNSYSCOM (AIR-404)
NAVAVNSAPCEN DIRECT (AAR)-2
CMC (Code AAP)
NAVPLANTREPO
COMNAVAIRLANT
NAVAIRRECOVFAC
CO, VMFA-312
CO, MAG-32

3:GDH:rw
3750
21 February 1968

SECOND ENDORSEMENT on WIPA-312 AAR 5-68A of 29 JAN 68, involving
F-4B 148401, pilot (b) (6)

From: Commanding Officer, Marine Aircraft Group 32
To: Commander, Naval Aviation Center
Via: (1) Commanding Officer, MCAS, Beaufort, S.C.
(2) Commanding General, Second Marine Aircraft Wing
(3) Commanding General, Fleet Marine Force, Atlantic

Subj: WIPA-312 AAR 5-68A of 29JAN68, involving F-4B 148401, pilot
(b) (6)

1. Forwarded concurring with the conclusions and recommendations of the Aircraft Accident Board and the first endorser subject to the following comments.
2. In reference to paragraph 6. of the first endorsement and paragraph 2 of the AAR board's conclusions, the requirement for immediate recovery of a "downed aircrew" by SAR cannot be overemphasized. Water temperature in the Beaufort area drops to 59°F or below during November each year and remains there until mid-March. The water temperature plus outside air temperature during these months would render an individual helpless in a matter of minutes and could be fatal in less than one hour. It is strongly recommended, due to the present inadequate SAR situation at this air station, that an additional SAR helicopter be provided on a temporary basis until full utilization of present SAR facilities is realized.


R. J. SCHRIVER

Copy to:

NAVAVNSYSCOM (AIR-404)
NAVAVNSAFCEC DIRECT (AAR)-2
CMC (Code AAP)
NAVPLANTREPO
COMNAVAIRLANT
NAVAIRRECOVPAC
CO, WIPA-312

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMNAVINST 3750 SERIES

3: C.B: jh
5100
21 February 1968

First ENCLOSURE to VMPA-312 AAR 5-68A of 29 JAN 68, involving F4E 148401,
Pilot: (b) (6)

From: Commanding Officer, Marine Fighter/Attack Squadron 312
To: Commander, Naval Aviation Safety Center
Via: (1) C.O., MAG-32
(2) C.O., MCAS, Beaufort, S. C.
(3) C.G., 2dMFW
(4) C.G., FMFLant

Subj: VMPA-312 AAR 5-68A of 29 JAN 68, involving F4E 148401, Pilot: (b) (6)

1. Forwarded, concurring with the conclusions and recommendations of the Aircraft Accident Board.
 2. A preliminary report on Dir No. F4-13-68 from McDonnell received by TELCON on 19 February 1968, stated that seven fatigue areas were found on the fractured face of the portion of left hand ducting released to them (Encl 26). This confirms the board's conclusion that the fire started in this area and establishes the primary cause of the accident as material failure of the left hand bleed air ducting.
 3. This squadron is participating in an INA level hydrostatic test of our BLC systems, beginning with the BuNo 148— series aircraft. The first two aircraft checked (BuNo 148398 and BuNo 148434) have shown unacceptable bleed air leakage in the area under the number 2 fuel cell in addition to other areas. The hydrostatic test method presently employed is similar to that recommended to Naval Air Systems Command by McDonnell letters 730-350-71979 of 30 March 1967 and 730-350-73408 of 5 June 1967.
 4. In view of the findings of the McDonnell DIR team and our hydrostatic tests, it is considered urgent that recommendations # 1a & b of the board be considered.
 5. Fire warning systems in jet aircraft have always been inadequate. The present aircraft fire warning system frequently gives insufficient and erroneous information. The endorser strongly concurs with recommendation # 1c and feels an improved warning system for the entire aircraft is indicated.
 6. The requirement for quick recovery of aircrews involved in mishaps is vital and a more reliable service is required as per recommendation #2 & #3.
 7. The MQR points out that the aircraft seat pans were not provided with HC-49 A(B) radios. Continuous efforts have been made by this squadron for the past
- SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

PART II MAINTENANCE, MATERIAL, AND FACILITIES DATA

PART II MAINTENANCE, MATERIAL, AND FACILITIES DATA											
A. A/C HISTORY	1. DATE OF ACCEPTANCE	2. FLIGHT HRS. SINCE ACCEPTANCE	3. NO. OF PAR/OVERHAUL	4. MONTHS SINCE LAST PAR/OVERHAUL	5. FLT. HRS. SINCE LAST PAR/OVERHAUL	6. LAST PAR/OVERHAUL ACTIVITY	7. TYPE OF LAST CHECK PERFORMED	8. FLIGHT HOURS SINCE LAST CHECK	9. DATE SINCE LAST CHECK		
	1 Sep 61	1402.3	3	17	611.2	M&F CHFT	Calendar	142.0	79		
B. ENGINE HISTORY	1. ENGINE MODEL	2. ENGINE SERIAL NUMBER	3. FLIGHT HRS. SINCE ACCEPTANCE	4. NUMBER OF OVERHAULS	5. WAS DIR. REQUESTED?	6. FLT. HRS. SINCE LAST OVERHAUL	7. LAST OVERHAUL ACTIVITY	8. TYPE OF LAST CHECK PERFORMED	9. FLIGHT HOURS SINCE LAST CHECK	10. DATE SINCE LAST CHECK	
	(a) J79	GE68	421173	816.7	1	No	454.7	Quens Pt	Calendar	103.5	81
	(b) J79	GE68A	421091	1174.9	0	No		Calendar	158.5	79	
	(c)										
C. COMPONENT HISTORY	1. COMPONENT INVOLVED NOMENCLATURE	2. MANUFACTURERS PART NUMBER	3. TOTAL HRS. ON PART	4. NO. OF OV-HAULS	5. HOURS SINCE LAST OVERHAUL	6. OVERHAUL ACTIVITY	7. WAS DIR. REQUESTED?	8. SER. NO. PAR/OVERHAUL			
	(1) Duct assembly, eng bleed air LH	10624.21	1402.3	3	611.2	M&F CherPt	Metallurgical analysis - Pass				
	(2)										
	(3)										
D. INCIDENTS & GROUND ACCIDENTS	1. PARTS REPAIRED		3. DIRECT HOURS INVOLVED		2. PARTS REPLACED						
	PART NUMBER	NOMENCLATURE			PART NUMBER	NOMENCLATURE					
JET ENGINE FLAMEOUT (Include intentional securing to prevent engine damage)											
E. ENGINE FAILURES	AT TIME OF FLAMEOUT	1. ALTITUDE	2. IAS	3. RPM	4. SST	5. MANEUVER AT TIME OF FLAMEOUT	6. FUEL FLOW	7. ALTITUDE			
		3,000 feet	350	Idle	300	Climb	1000 PPH	Low			
	A. G FORCES	9. RELIGHT	10. ALTITUDE	11. IAS	12. MAX SST	13. FUEL CONTROL	14. NO. BELOW ACTIVITY				
	1	<input type="checkbox"/> ATTEMPTED <input type="checkbox"/> ACCOMPLISHED				<input type="checkbox"/> PRIMARY <input type="checkbox"/> MANUAL					
INTENTIONAL SECURE	15. ENGINE SYMPTOMS			16. CAUSE OF SYMPTOMS							
Yes	Beng, Port eng fire warning light			Unknown							
RECIPROCATING ENGINE FAILURE											
17. ALTITUDE	18. IAS	19. ALTITUDE	20. RPM	21. ROP	22. TURN/TEMP	23. FUEL FLOW	24. GA				
INTENTIONAL SECURE	25. ENGINE SYMPTOMS			26. CAUSE OF SYMPTOMS							
F. OTHER REPORT	IDENTIFY OTHER REPORTS CONCERNING THIS MISAP										
	1. AMPFLR SERIAL NUMBER										
	2. DIR MESSAGE REQUEST DATE-TIME-GROUP	Info NASC on DIR request. See para. 66 OPNAVINST 3750.6									
	3. OTHER	DIR NASCREPLANT Control F4-13-68									
4.											

AIRCRAFT ACCIDENT REPORT

SPECIAL HANDLING REQUIRED in accordance with

OPNAV REPORT 3750-1

OPNAV FORM 3750-1A (Rev. 3-63) Page 3

Para. 66, OPNAV INSTRUCTION 3750.6, effective edition

1. EQUIPMENT INVOLVED <input type="checkbox"/> CATAPULT <input type="checkbox"/> ARRESTING GEAR		2. PRESSURE SETTINGS	3. WIND OVER DECK	4. RELATIVE WIND	5. APPROXIMATE SPEED
6. SERIAL NUMBER	7. MODEL NUMBER	8. LOCATION OF SHIP		9. LAUNCHING DEVICE AND SERIAL NUMBER	
10. CATAPULT/ARRESTING GEAR BULLETINS OR NOTIFICATIONS USED					

11. This portion shall be completed whenever (1) an aircraft accident involves arresting gear barrier and/or barricade equipment, or (2) an aircraft accident involves malfunctioning of arresting gear, barrier and/or barricade equipment. Incidents or faults damage to cables, windings and other expendable equipment need not be reported herein.

ENGAGED	12. DECK RUNOUT (FEET)	13. RAM TRAVEL (INCHES)	14. CONTROL VALVE SETTINGS		15. ACCUMULATOR PRESSURE (PSI)	16. COMMENTS (for cable failures specify no. loadings and months in service)
			CONSTANT PRESSURE			
			DOME (P.S.I.)	RATIO		
DECK PENDANT						
DECK PENDANT						
BARRIER/BARRICADE						

FOR ACCIDENTS ABOARD CARRIERS (complete on ship)

1. DATE DEPLOYED COMUS	3. DAY HOURS/LAUNCHES SINCE DEPLOYMENT	4. DAY HOURS/LAUNCHES LAST 20 DAYS
2. NO. DAYS OPERATING PERIOD		
5. INST. HOURS LOGGED SINCE DEPLOYMENT ACTUAL/SIMULATED	6. INST. HOURS/LAUNCHES SINCE DEPLOYMENT	7. INST. HOURS/LAUNCHES LAST 20 DAYS

WEATHER AT SCENE OF MISHAP

1. CEILING 16000	2. VISIBILITY 7 MI	3. RELATIVE WIND DIRECTION AND VELOCITY 080/04	4. TEMPERATURE SURFACE 69 OUTSIDE AIR 60	5. SURF POINT 46	6. ALTITUDE SERVICE 30.28
7. OTHER WEATHER CONDITIONS (winds aloft, icing level, sea state, density altitude, as appropriate)					
None					

PART III ADDITIONAL INFORMATION

PART	SECTION	ITEM	1. REMARKS	2. COPY DISTRIBUTION
			5. (b) (6) Capt, AdminO	20C BBN/NAVFOR DIRECT (AS) 1 NavAirSysCom (Air 40) 1 CDR (Code A-P) 1 NavPlantRapo 1 ComNavAirLant 1 NavAirBase/Fac
			6. (b) (6) Capt WarSysOff	
COST DAMAGE TO:			3. GOVERNMENT PROPERTY	4. PRIVATE PROPERTY
			\$300.00	5. DATE DEDUCTED TO US 16F0566

PART IV SIGNATURES OF THE BOARD

1. SENIOR MEMBER <i>J. E. SAGAN</i> J. E. SAGAN 1. SENIOR MEMBER	ExecO Major 1. SENIOR MEMBER	(b) (6) 1. SENIOR MEMBER	Pilot Trng Off Captain 1. SENIOR MEMBER
(b) (6) 1. SENIOR MEMBER	1. SENIOR MEMBER	(b) (6) 1. SENIOR MEMBER	QC Off Captain 1. SENIOR MEMBER

* When preparing Incident and Ground Accident reports, items indicated by an asterisk in the upper right hand corner must be filled in. Other items considered appropriate should also be filled in.

PART V THE ACCIDENT

At 1517, 29 January 1968, DR-09 (BuNo 148401) and DR-06 departed for a local training flight (enclosure (2)). The mission was Snap Up attacks against a bogey at 35 thousand feet by a fighter starting from 15 thousand feet. At 1555, after two (2) runs using maximum power, DR-06 (the wingman) encountered a left fire warning light. The Wingman retarded the throttle to idle, and the light went out. Fire warning system circuit check proved good and 09 joined up to accompany 06 to MCAS, Beaufort. At 1610, DR-06 recovered uneventfully on runway 04 at MCAS, Beaufort, (enclosures (3) and (4)).

After DR-06 had recovered, DR-09 waved off to the left and initiated a climb to 8000 feet. Fuel at the time of wave off was approximately 9000 lbs. Fourteen miles from the field the pilot descended to 2000 feet accelerating to approximately 450 KCAS. He started to add power in order to initiate a steep climb. At this time a loud bang was heard. Power was retarded to 80% and engine instruments indicated normal operation. A turn toward MCAS, Beaufort was initiated. Within several seconds the left fire warning light began to flicker. The left throttle was retarded to idle and the right engine was set at 85-90%. The fire warning system was checked. The left fire warning light continued to flicker, the other lights, (i.e. left overheat, right fire and right overheat) did not illuminate. The left engine was secured. At twelve miles, tower was informed and a straight in approach to runway 22 was requested and approved, (enclosure (5)).

At six miles the RIO noted fumes in the cockpit. Gear and $\frac{1}{2}$ flaps were lowered at 4 miles, followed by another loud bang. By the time the aircraft was on final at 3 miles from the runway, the Pilot and RIO noted smoke and fumes in the cockpit, heavy smoke around the intakes, and that numerous circuit breakers had popped. The pilot continued to hear loud bangs (enclosure (6)). At approximately 2 miles from the runway upon noticing an excessive sink rate the pilot ordered the RIO to eject and followed him within 2 seconds. Ejection Sequence was normal. The aircraft descended rapidly and impacted in a level attitude less than $\frac{1}{2}$ mile from the point the RIO ejected, (enclosures (7), (8), (9), (10), (11), and (12)).

PART VI DAMAGE TO THE AIRCRAFT

Initial aircraft impact^{was} on a heading of approximately 220 degrees, ~~was~~ slightly nose down and slightly right wing down, with a high sink rate, (enclosures (13) and (14).

The aircraft broke apart on impact along a line extending up and back across the fuselage profile from the bottom of the radome fuselage, (station 48.28) to just aft of the number 1 fuel cell on top. This forward portion continued slightly to the right of the extended flight path. The remaining portion of the fuselage and the ICA antenna portion of the fuselage and the ICA antenna portion of the radome remained at the initial point of impact digging in and flipping the aircraft over. The empennage broke off and remained fairly intact near the initial impact point. The wings separated from the aircraft and remained at the initial impact point; the right wing remaining with the engine/fuselage portion and the left wing approximately 10 feet to the left of it, relative to the flight path, (enclosures (15), (16) and (17).

The forward fuselage section and cockpit sections continued forward from the initial impact point shedding wreckage in a 110 degree cone with its center bearing 235 degrees from the initial impact point. The radome, containing the majority of the radar package was thrown forward by inertia. It impacted on and knocked down a steel mesh cyclone type fence shredding itself and coming to rest on the fence approximately 350 feet and 235 degrees from initial impact. The radar package and portions of the instrument panels and consoles continued generally along this line for another 120 feet before coming to rest. Portions of the number 1 fuel cell also landed burning in this area.

Several pieces of the forward fuselage and Comm/Nav equipment were hurled through another cyclone fence 130 feet past the first one and came to rest a total of 550 feet from the initial point of impact.

Two definite beam lobes of wreckage existed in addition to the cone. However, the vast majority of the strewn wreckage was concentrated to the right of a line projected along the flight path, (enclosure (18).

PART VII INVESTIGATION AND ANALYSIS

1. Pilot/Supervisory Factors

The actions of the Pilot and RIO leading up to and throughout the flight indicate that they were well prepared both physically and mentally. No error could be found in their technique, judgement or operation of the aircraft systems that in any way affected the final outcome of the flight. The training level, qualifications, and ability of the flight crew were all adequate and no evidence of error of a supervisory nature from the operational standpoint was found.

2. Maintenance Factors

The only maintenance factor considered pertinent to the accident is that the aircraft DF-09 was downed on 26 January 1968 for a fire warning light discrepancy in flight. The discrepancy is extracted verbatim from Part B of the yellow sheet as follows:

1. I. "Fire warning light in flight, port engine blinked several times and went out. Checked warning light test and bulbs checked good. On deck fire warning system checked good before and after the hop."

The statement of the pilot on 26 January 1968 further explains that on actuation of the fire warning test system the starboard lights did illuminate and the port fire light remained out, (enclosure (19)).

Corrective action for the ground crew was to secure a loose canon plug they had found on the control unit and to visually inspect the fire warning sensing elements. The system checked out and the aircraft was returned to an up status and flew a 2.0 Bombing and Rocketry hop on the morning of 29 January 1968 with no difficulties in the fire warning system, (enclosure (20)).

After the accident the above mentioned fire warning discrepancy was duplicated on another aircraft and it was found that with the canon plug loose on the control unit, the discrepancy of 26 Jan 1968 could be duplicated exactly. The conclusion is that the maintenance action taken was proper and complete for the discrepancy on 26 Jan 1968.

The discrepancy in the fire warning system noted by Major (b) (6) on 29 January was that when the press to test circuit was actuated no lights illuminated except the left fire warning light which continued to flicker. This was not a repeat of the discrepancy of 26 Jan 1968.

C. Material Failure

With the assistance of a General Electric Technical Investigator, a McDonnell-Douglas Accident Investigator, and an investigator from the Aviation Safety Center, a thorough investigation into areas of suspected material failure was conducted with the following results: The first explosion and fire warning light on the left engine which caused the pilot to shut it down, were not caused by the left engine itself.

Engines; At the request of the Accident Board and the Naval Aviation Safety Center Representative, the General Electric Technical Investigator with IMA assistance completed the equivalent of a DIR. All findings were observed and reviewed by the accident board and the Safety Officer Representative. They were as follows:

The left engine (enclosure (21)) was reported to have been shut down and displayed relatively little impact damage. The inlet guide vanes and exhaust nozzle actuators were in the shut down position. There was no evidence of an inflight fire on the basic engine, exhaust section or controls and accessories. All fire evidence was the result of post impact, low intensity burning. The engine showed no evidence of a component failure, rotor seizure or malfunction to interfere with normal operation. All indications show that the engine was not running but windmilling at and estimated 10 to 15 percent RPM at impact.

The right engine (enclosure (22)), suspect because of its 1172 hours, received substantially more damage at impact. The inlet guide vanes indicated a speed of idle RPM or lower. However, the exhaust nozzle was positioned in the full open position indicating an overtemperature condition. All external surfaces were examined and the turbine and compressor stators were removed. There were no indications that the engine's high time had any bearing on the accident. The engine showed no evidence of any component failure or rotor seizure, however, most probably was operating in stall at the time of impact. The full open nozzle condition can only occur during maximum afterburner operation, engine over temperature, or nozzle open failure. Max afterburner operation can be eliminated since RPM was established at near idle speed. The nozzle open failure would entail a second system failure, which is possible, however unlikely. A stall can occur when hot gasses are ingested into the compressor and this was the most probable cause since smoke and vapors were observed to be escaping from the inlet duct louvers. The stalled engine was the most probable cause of the "banging noise" heard during the approach prior to ejection.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INST 3750.6 SERIES

PART VII Continued

██████████ Had the pilot ignored these indications and kept the left engine operating in disregard of NATOPS, it would most probably have stalled along with the right engine during the approach, as the smoke and fumes appeared to have been distributed evenly between both intakes.

There was no indication of either an electrical or a hydraulic systems malfunction although evidence of an inflight fire was found on components of both systems. The fuel system valves and lines appeared to be intact and properly positioned prior to impact except for the number two fuel cell. Evidence of an inflight fire was first found in the door 22 area (directly under the number one fuel cell) (enclosure (23) and was traced back to the area under the number two fuel cell where the bleed air ducting is routed forward from the engines (enclosure (24). Fire patterns further indicated that the source of the fire was in the immediate vicinity of the left hand bleed air ducting prior to the point where the left leading edge wing BLC ducting branches off (duct assembly, engine bleed air LH, P/N 10624-21). Comparison of the left and right ducting in the suspect area gives evidence of failure of the left side prior to impact. (enclosure (25). This area (enclosure (26) has been forwarded to the McDonnell Factory for metallurgical analysis (NASCREPLANT Control F4-13-68) With the evidence at hand, a tentative reconstruction of the events leading up to the accident can be made. The left hand bleed air ducting failed, burning a small hole in the number two fuel cell and caused the first explosion. This explosion damaged the fire/overheat warning system giving the erroneous indication to the pilot. The explosion also caused a much larger hole in the number two fuel cell producing fire but not another explosion as the mixture was too rich. The fuel and smoke from the fire proceeded outboard and was vented overboard through the louvers on both engine intake ducts. Popped circuit breakers, smoke in the cockpit, and the stalled engine were all a direct result of the fire. When the Pilot realized the situation was unsalvageable he ordered the RIO to eject and then, realizing his proximity to the ground and high sink rate, pulled back on the stick, momentarily decreasing his sink rate and ejected, (enclosure (27). Pulling back on the stick partially stalled the airframe and the aircraft impacted slightly nose down, slightly right wing down, and at 25 units angle of attack (as shown by impact marking on the indicator).

All pertinent service changes have been incorporated in the suspect area as listed in the Maintenance Officer's statement (enclosure (28). It should be noted however, that this was a block nine (148434 and earlier) aircraft with "thin" walled bleed air ducting in this area as compared to heavier ducting in later models.

PART VII Continued

D. Facilities

On 29 January 1968, all station facilities at MCAS, Beaufort which were associated with the accident were in an operating status with the exception of the SAR Helicopter (enclosure (29)).

The MCAS Beaufort SAR Helicopter was down for calendar inspection from 27 January 1968 to 30 January 1968. The second SAR Helicopter has been down AOCIP for parts for an indefinite period of time. The helicopter is kept down due to cannibalization and lack of parts to keep the other helicopter up. Because there is no crash boat at MCAS Beaufort and the SAR Helicopter has poor availability there is no reliable means of recovering a pilot from swamp or water which completely surrounds Beaufort.

At the time of the accident there was a Coast Guard helicopter north of the field on another mission. He was immediately contacted and vectored to the crash site. The crash crew and the standby ambulance containing a Flight Surgeon were dispatched to the scene. The crash crew arrived on the scene first and found the crew on their feet near the burning aircraft. Several minutes later the Coast Guard helicopter arrived on the scene and took the crew aboard just as the ambulance arrived (enclosure (30)). Upon lift off they were instructed by the tower to take the crew to the Naval Hospital (enclosure (5)).

Personnel at the Naval Hospital were not prepared for the arrival of the aircrew and had little knowledge of what examinations crew members must undergo after an ejection. Because the helicopter was on another mission, it left after dropping the crew off.

E. NATOPS

The investigation revealed that this flight was conducted in accordance with NATOPS normal and emergency procedures, with one exception as noted below. There is no evidence that NATOPS was a contributing factor to this accident.

When the pilot heard the first bang he reduced power, turned toward the nearest field and checked the engine instruments. There was no evidence of malfunction at this time. The subsequent illumination of the left fire warning light presented the pilot with a legitimate indication of a left engine fire. He complied with the NATOPS for this situation with the exception of failure to properly secure the left engine (i.e. he did not turn off the left engine master switch). There was no evidence of inflight fire between the left main fuel shut off valve and the fuel control and so this omission was not a contributing factor to the accident. In attempting the single engine landing the crew demonstrated outstanding team work. The RIO reviewed the emergency procedures check list for the pilot and advised him of the rapidly deteriorating situation. The final decision to abandon the aircraft was the only possible one under the circumstances.
Recommended Changes to NATOPS Procedures: None.

PART VIII CONCLUSIONS

1. The primary cause of this accident is undetermined. All evidence points to a material failure in the bleed air ducting. Nevertheless, pending positive results of the metallurgical analysis being conducted on the suspect portion of the ducting, it cannot be positively stated that material failure was the cause. It should be noted that no evidence could be found indicating any other systems failure or malfunctions.

2. The frequent non-availability of the SAR helicopter, the lack of a crash boat, and the normal reaction time of SAR Facilities at Savannah indicate that MCAS, Beaufort is inadequately equipped for SAR Operations that the high intensity of air traffic and unfavorable terrain demand.

PART II RECOMMENDATIONS

THE AIRCRAFT ACCIDENT BOARD RECOMMENDS:

1. Should the metallurgical analysis confirm a bleed air duct failure:
 - a. That the "Thin Walled" bleed air ducting common to F-4B BuNo's 148434 and earlier be replaced with the "Thick Walled" bleed air ducting common to BuNo's 149403 and subsequent during the next rework.
 - b. That a means of adequately inspecting the bleed air ducting be incorporated in the normal maintenance cycle no higher than at IMA level.
 - c. That a bleed air failure warning system be devised and incorporated in the aircraft with a manual shutoff feature to cutoff all bleed air from the engines when indications dictate.
2. That MCAS, Beaufort either obtain a crash boat or provide on the scene SAR helicopter service during all periods of local tactical flying.
3. That a helo pad be constructed adjacent to the MCAS Dispensary and that closer liason be conducted between station operations and the MCAS Dispensary as to proper and expeditious handling of crash or ejection personnel.

ENCLOSURE INDEX

VMPA-312

AAR 5-68A

ENCLOSURE

1. Medical Officer's Report
2. Flight Schedule
3. Statement of Wingman, Capt (b) (6)
4. Statement of Wingman's RIO (b) (6)
5. Transcript of Tower Tape
6. Statement of Nethen HAZEL
7. Statement of (b) (6)
8. Statement of
9. Statement of
10. Statement of
11. Statement of
12. Statement of
13. Photograph, Aerial view of wreckage
14. Photograph, Aerial view of crash site
15. Photograph, ground view of wreckage
16. Photograph, close up view of wreckage
17. Photograph, selected portions of wreckage
18. Diagram of wreckage
19. Statement of 1st Lt (b) (6)
20. Statement of Cpl (b) (6)
21. Photograph, left engine
22. Photograph, right engine
23. Photograph, door 22 area
24. Photograph, bleed air ducting
25. Photograph, bleed air ducting (comparison)
26. Photograph, bleed air ducting (suspected area)
27. Ejection Diagram
28. Statement of Maintenance Officer, Major (b) (6)
29. Fire/Rescue Report (Original)
30. Statement of Helicopter Pilot, Lt (b) (6)

SECTION A - IDENTIFICATION

1. FROM (Name and mailing address of activity) **VMFA-312, MAC-32, MCAS Beaufort, South Carolina 29902**

2. MOB NUMBER **5-68**

3. LEAVE BLANK

4. TYPE OF MISHAP
 ACCIDENT GROUND ACCIDENT INCIDENT

5. TIME & ZONE **1618 R**

6. DATE **29 JAN 68**

7. GEOGRAPHICAL LOCATION **1/2 mile off approach to runway 22, MCAS**

8. MODEL A/C **F4B**

9. BUONO **148401**

10. NO. OF OCCUPANTS **Two**

11. DAMAGE CODE **Alpha**

12. UNIT OPERATING A/C **VMFA-312**

13. INDIVIDUALS INVOLVED USE ADDITIONAL SHEETS IF REQUIRED NAME (Last, first and middle initial)	14. UNIT TO WHICH ATTACHED	15. RANK/ RATE	16. FILE/SERV. NO. DESIGNATOR	17. DUTY ASSIGNMENT		18. DATE OF LAST PHYSICAL	19. PHYSICALLY QUALIFIED FOR FLIGHT	20. BRANCH OF SERVICE	21. INJURY CODE	22. DISPO- SITION
				ABOARD A/C	AT MISHAP					
(b) (6)	VMFA-312	MAJ	(b) (6)	PC		27 DEC 67	Yes	USMC	G	H
	VMFA-312	1st LT		RIO		16 OCT 67	Yes	USMC	B	G

23. CLARIFICATION OF ITEMS 13-22 WHEN NECESSARY

24. MODEL-OTHER A/C IF INVOLVED

25. BUONO

26. NO. OF OCCUPANTS

27. UNIT OPERATING A/C

28. DAMAGE CODE

29. MOB NO.

30. NARRATIVE ACCOUNT OF MISHAP (Use additional 8 x 10 1/2 sheets if required)

At 1517 29 January 1968 DR-09(148401) and DR-06 departed for a local training flight. The mission was for Snap Up attacks against a bogey at 35 thousand by a fighter starting from 15 thousand feet. At 1555 DR-06 had a left fire warning light. He retarded the throttle to idle, and the light went out. Checking the circuit proved good and 09 joined up to accompany 06 to MCAS Beaufort. At 1610 06 recovered uneventfully on runway 04 at MCAS Beaufort.

After DR-06 had recovered, DR-09 waved off to the left and initiated a climb to 8000 feet. Fuel at the time of wave off was approximately 9000 pounds. The pilot then descended to 2000 feet accelerating to approximately 450 KCAS. He then started to add power in order to initiate a zoom climb. At this time a loud bang was heard. Power was retarded to idle and engine instruments indicated normal operation. A turn toward MCAS Beaufort was initiated. Within several seconds the left fire warning light began to flicker. The left throttle was left at idle, and the right engine was set at 85-90%. The fire warning system was checked. The left fire warning light continued to flicker, the other lights (ie left ovht, right fire and right ovht) did not illuminate. The left engine was secured. At 12 miles tower was informed and a straight in approach to runway 22 was requested and approved.

At 6 miles the RIO noted fumes in the cockpit. Gear and one-half flaps were lowered at four miles, followed by another bang.

CONTINUED IN ADDENDUM

31. PRIMARY CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD
Fire in flight, cause undetermined.

32. CONTRIBUTING CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD
None

33. POSSIBLE CAUSE FACTOR ASSIGNED BY ACCIDENT BOARD
Material Failure - Bleed air duct assembly, Left hand.

34. HAVE ALL FINDINGS, CONCLUSIONS, & RECOMMENDATIONS BEEN MADE AVAILABLE TO THE A/C ACCIDENT BOARD? IF NO, EXPLAIN.
 YES NO

35. REPORT PREPARATION CHECK LIST

ALL PARTS OF FORM COMPLETED

DRAWINGS, SKETCHES, PHOTOS

SURVIVORS NARRATIVES

WITNESS STATEMENTS

CONCLUSIONS & RECOMMENDATIONS

REQUIRED COPIES FURNISHED

36. REPORT MADE BY (Name & signature of medical officer) **(b) (6)**

DATE **14 FEB 68**

37. FORWARDED (Name & signature of appointing authority) **W. Vincent**

DATE **14 FEB 68**

LT MC USN, FLT SENG, VMFA-312

LTCOL USMC, C.O., VMFA-312

MOR 5-68 VMFA-312 F4B 29 JAN 68 BuNo 148401 Pilot (b) (6)
ADDENDUM to Page 1 - Section A - Item 30 - Narrative Account of Mishap

By the time the aircraft was on final at 3 miles from the runway, the pilot and RIO noted smoke and fumes in the cockpit, smoke around the intakes, and that numerous circuit breakers had popped. The pilot continued to hear loud bangs. At approximately 2 miles from the runway upon noticing an excessive sink rate the pilot ordered the RIO to eject and followed him within 2 seconds. Ejection sequence was normal. The aircraft descended rapidly and impacted in a level attitude less than $\frac{1}{4}$ mile from the point the RIO ejected.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES.

SECTION B - FACTORS CONTRIBUTING TO OR RELATING TO MISHAP BY PHASE OF MISHAP (List in order in accordance with Section B of Inst.)

1. FACTORS	2. PHASE OF MISHAP (See code at right)				PHASE CODE: A - ACCIDENT E - ESCAPE/EGRESS S - SURVIVAL R - RESCUE	FACTOR WEIGHT: M - MAJOR C - CONTRIBUTING Q - QUESTIONABLE OR POSSIBLE
	A	E	S	R		
						REMARKS No contributing personnel factors.

SECTION C AIR CREW DATA

1. FLIGHT TIME LAST 30 DAYS (All models)	12.4			
2. FLIGHT TIME LAST 24 HOURS (All models)	2.8			
3. NO. FLIGHTS LAST 24 HOURS (Include present flight)	2			
4. TIME AT CONTROLS THIS FLIGHT	0			
5. TOTAL FLIGHT TIME ALL MODELS	135.6			
FLIGHT TIME	6. TOTAL	7. LAST 30	8. 90 DAYS	9. 90 DAYS
THIS MODEL	52	12.4	49.5	52.0
10. NO. GROUNDINGS PAST YEAR	None			
11. NO. DAYS GROUNDED PAST YEAR	None			
12. DATES AND TYPES OF PRIOR MISHAPS	None			
13. NO. HRS. IN A DUTY STATUS LAST 24 HRS.	Ten			
14. DIRECTION FACING AT TIME OF MISHAP	Forward			
15. LOCATION AT TIME OF MISHAP	Aft cockpit			

SECTION D ANTHROPOMETRIC DATA (Compare with health record)

AGE (b) (6)

HEIGHT

WEIGHT

A. SITTING HEIGHT

B. TRUNK HEIGHT

C. FUNCTIONAL REACH

D. BUTTOCK - KNEE

E. LEG LENGTH

F. SHOULDER WIDTH (DELTOID)

16. LABORATORY TESTS AND RESULTS

SPECIMEN	TEST PERFORMED	RESULTS	SPECIMEN	TEST PERFORMED	RESULTS
BLOOD	1.		TISSUE: (CNS)		
	2.			MUSCLE	
	3.			VISCERA	
URINE			OTHER:		
G.I. CONTENT					

17. X-RAY RESULTS

(b) (6)

MOR NO. 5-68	MODEL A/C F4B	SUNG 148401	IDENTIFICATION OF INDIVIDUAL B
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NAME OF INDIVIDUAL
(b) (6)

SECTION E

INDIVIDUAL CHRONOLOGICAL DATA

SEE PAGE 8 PARA. 10 OF INSTRUCTION TO BE COMPLETED ON PLANE COMMANDER, PILOT, CO-PILOT, OTHER INDIVIDUAL IN CONTROL OF AIRCRAFT AT TIME OF MISHAP, AND/OR INDIVIDUAL CAUSING THE MISHAP

USE LOCAL TIME AND BRIEFLY RECORD ACTIVITY WITHIN EACH COLUMN

48 HOURS PRIOR TO MISHAP		29 JAN 68	
TIME		TIME	
27 JAN 68		0630	Arose-breakfast of grapefruit, cereal & milk, coffee, fruit tart
1600	Returned from out and in hop to Cherry Point Remained at home	0730	Arrived at SQD, office routine Asst. Ops. Officer
2300	Retired	1200	Briefed for hop T O Self contained intercept with DR06
28 JAN 68		1600	Escorted DR06 to emergency landing
0800	Arose and ate large breakfast	1610	Fire warning light
		ACCIDENT PHASE	
		1616	Emergency declared
		ESCAPE PHASE	
1100	Hunting Island State Park - picnic lunch MCAS Boat Docks (recreation)	1619	Ejection
		1619	Landed safely in soft mud
		2125	Contacted by crash crew
1800	Evening meal - watched television	SURVIVAL PHASE	
		21	Helicopter to NAWHOSP
2400	Retired		

TIME OF RESCUE

MOR NO. 5-68	MODEL A/C F4B	DURO 118401	IDENTIFICATION OF INDIVIDUAL ▲
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NAME OF INDIVIDUAL

(b) (6)

SECTION E

INDIVIDUAL CHRONOLOGICAL DATA

SEE PAGE 8 PARA. 10 OF INSTRUCTION
TO BE COMPLETED ON PLANE COMMANDER, PILOT, CO-PILOT, OTHER INDIVIDUAL
IN CONTROL OF AIRCRAFT AT TIME OF MISHAP, AND/OR INDIVIDUAL CAUSING THE MISHAP

USE LOCAL TIME AND BRIEFLY RECORD ACTIVITY WITHIN EACH COLUMN

48 HOURS PRIOR TO MISHAP		TIME	
27 JAN 68		0530	Coffee & donuts for breakfast
		0600	Arrived at SQD
		0615	Briefed for NAV hop
		0900	Take Off
1500	Arrived Pit turn around Cherry Point	1030	Landed
1600	Watched television	1130	Ate lunch- 1 1/2 sandwiches and milk.
1700	Ate supper	1200	Briefed for hop T O Self contained intercept with DRO6
1800	Watched television	1600	Escorted DRO6 to emergency landing
		1610	Fire warning light
		ACCIDENT PHASE	
		1616	Emergency declared
28 JAN 68		ESCAPE PHASE	
0030	Retired	1619	Ejection
1100	Arose-ate light breakfast battered about house	1619	Landed safely in soft mud
1300	Rode out to Fripp Island	2125	Contacted by crash crew
1500	Watched television	SURVIVAL PHASE	
1600	Meatballs & gravy for dinner	2131	Helicopter to NAVHOSP
1630	Read NATOPS		
1930	Watched television - two beers with pretzels		
2300	Retired		

TIME OF RESCUE _____

MOD NO.	MODEL A/C	SUNO	IDENTIFICATION OF INDIVIDUAL
5-68	F4B	148401	B

NAME OF INDIVIDUAL

(b) (6)

PATHOLOGICAL DATA

(Refer to Section F of Instructions.)

SECTION F

1. INJURY CODE AND DISPOSITION

Bravo

3. UNCONSCIOUSNESS

NO YES DURATION:

2. PRE-EXISTING PHYSICAL DEFECTS

None

4. DROWNED

5. ASPHYXIATED

6. SHOCK

MILD MODERATE SEVERE

7. EXPOSURE

MILD MODERATE SEVERE

8. EXTENT OF CARBONIZATION

9. IF ADMITTED TO SICK LIST, GIVE DIAGNOSIS

(b) (6)

10. PLACE OF HOSPITALIZATION

USNH Beaufort, S.C.

12. DURATION (See Instruction)

11. GROUNDED? IF YES, GIVE REASON

NO YES Admission to sicklist

13. PRIMARY CAUSE OF DEATH

14. SECONDARY CAUSE OF DEATH

15. AUTOPSY CONDUCTED BY:

PATHOLOGIST, MEDICAL OFFICER PRESENT PATHOLOGIST, MEDICAL OFFICER NOT PRESENT MEDICAL OFFICER

16.

PROTOCOL ATTACHED WILL BE FORWARDED

17. WAS "AUTOPSY MANUAL, NAVMED PS065" USED?

YES NO

18. IF NO AUTOPSY CONDUCTED, GIVE REASON

19. INJURIES -

PHASE SUSTAINED

A E S R

(b) (6)

?

CAUSE AND MECHANISM (If unknown, theorize)

Improper positioning on ejection probably due to tall sitting height requiring subject to lean slightly forward when pulling curtain over helmet or due to necessity to quickly sit up after attempting to reset circuit breakers, not allowing time to position self.

20. REMARKS Ejection not positively established as cause.

(b) (6)

patient has been returned to light duty.

MOB NO. MODEL A/C SERVO IDENTIFICATION OF INDIVIDUAL

568 F4B 148401 B

NAME OF INDIVIDUAL

(b) (6)

SECTION F (Continued)

SKELETAL INJURIES

DESCRIBE AND SHOW GRAPHICALLY BY OUTLINING
ALL FRACTURES BY TYPE (Simple, compound, comminuted, etc.) AND DISLOCATIONS INDICATING DIRECTION OF DISPLACEMENT.

(b) (6)

DESCRIBE AND SHOW GRAPHICALLY: 1. ALL FRACTURES OF SPINAL COLUMN (Simple, compressed, etc.)
2. DISLOCATION AND DIRECTION OF DISPLACEMENT. 3. SITES OF CORD DAMAGE, IF ANY.

DETAILS OF SPINAL INJURIES

(b) (6)

MOB NO.	MODEL A / C	ORIG	IDENTIFICATION OF INDIVIDUAL
5-68	F1B	1184CL	B
NAME OF INDIVIDUAL (b) (6)			

SECTION G ESCAPE, PERSONAL AND SURVIVAL EQUIPMENT

LIST AND CODE IN ACCORDANCE WITH SECTION G OF INSTRUCTION: PHASE CODES: A-ACCIDENT/WIDMAP E-ESCAPE/EGRESS PHASE
 B-SURVIVAL B-RESCUE PHASE

1. EQUIPMENT DESCRIPTION INCLUDING SPECIFIC MODEL DESIGNATION	2. MODIFICATION	3. RE-REQUIRED	4. AVAIL-ABLE	5. NEED	6. USED	7. FAILED	8. REMARKS (Explain failures, loss, and/or difficulty encountered. Use additional 8x10 1/2 plain paper if needed.)
Helmet APH6, Lg.	BACSEC 2 & 20	Yes	AE	AE	AE		E Lower block pulled free
Flgt Suit, Mens, Summer Nomex		Yes	AE	AE	AE		
Boots, Flying, Steel Toe		Yes	AE	AE	AE		
Gloves, leather flying		Yes	AE	AE	AE		
O2 Mask A-13-A, Lg.	BACSEC 16, 18	Yes	AE	AE	AE		
Reg., O2, Robert Shaw Fulton Miniture due 6 MAR 68	BACSEC 11 BACSEC 9-60, ASB-43 Amend I	Yes	AE	AE	AE		
Torso Harness MA-2 Large	ACSC-41 BACSEC 251A, 12-62, BACSEC 4	Yes	AE	AE	AE		
G-suit, Lg. MK II A	BACSEC 21	Yes	AE				
Seat Pan RSSK-1 due 2-16-68	ACSC 11, 41, 21, & 74	Yes	AE	AE	AE		
M-B Parachute MBEU 5000 PA due 4-9-68	BACSEC 1-58, 21-59, 22-61, 49-64, 38, 38-61A; C&SEC 5 & 5RevA IACSC-50 ACSC 9A, 25, 41, 62 F-4 Air Frame Change 274	Yes	AE	AE	AE		

SECTION H NARRATIVE OF ESCAPE/EGRESS, SURVIVAL AND RESCUE PHASES

When it became apparent that we would not make the runway, I shouted "get out" twice and Lt (b) (6) ejected immediately. I reached for the curtain but the nose fell through rapidly, I knew I was low and didn't want excessive sink rate, I grabbed the stick, pulled it back and the nose came up. I ejected about two seconds after Lt (b) (6). The escape system functioned flawlessly and I watched the airplane impact as I felt the chute deploy. I was only about 30-40-feet high so I attempted to stop any drift towards the fireball by making a two riser slip to the rear. This had little effect because I barely had time to bring my feet together prior to touchdown. I landed in firm mud about 75 feet short of where the aircraft impacted. I grabbed the bottom risers of my chute and pulled them as I got up and moved away from the fire. The chute collapsed immediately and I looked to where Lt (b) (6) had landed. He hadn't stood up yet so I disconnected my chute and took my helmet off, then I released the lap fittings to get rid of my seat pack. The lower block assembly of my mask had apparently come loose during ejection and oxygen was hissing from the pan. When I looked back Lt (b) (6) was up and said he was okay. I went over to Lt (b) (6) and he looked good but said his (b) (6). We waited for the crash crew who arrived a few minutes later.

MOR NO.	MODEL A/C	SUNO	IDENTIFICATION OF INDIVIDUAL
5-68	F4B	118401	A

NAME OF INDIVIDUAL
 (b) (6)

SECTION G ESCAPE, PERSONAL AND SURVIVAL EQUIPMENT

LIST AND CODE IN ACCORDANCE WITH SECTION G OF INSTRUCTION: PHASE CODES: A-ACCIDENT/REPAIR B-ESCAPE/REPAIR PHASE
 C-SURVIVAL D-RESCUE PHASE

1. EQUIPMENT DESCRIPTION INCLUDING SPECIFIC MODEL DESIGNATION	2. MODIFICATION	3. RE-REQUIRED	4. AVAIL-ABLE	5. NEED	6. USED	7. FAILED	8. REMARKS (Explain failure, loss, and/or difficulty encountered. Use additional 8x10 1/2 plain paper if needed.)
PK-2 Life Raft	BACSEB 10-60A, 32-62, ACC 12, ACSC 35 & 101	Yes	AE				
Survival Knife, pilots		Yes	AE				
Survival Knife, MC-1		Yes	AE				
MK3-C Life preserver due 4 APR 68	BACSEB 15-60, 4-62, 9&11 Int, BACSEC 21 ACSC 26 & 66A C&SEB 21	Yes	AE				
MB-MK5 H5 Seat MBEU 120145 SER NO A6-53, Date of last check- 12-10-67	AFC #274, 1231 1282, 1259, 1194 1341, 1377, 1381 1284, 1299, 1304 & 1348 ACSC #4, 19, 24, 30, 38, 49, 56, 63, 80, & 99	Yes	AE	AE	AE		

MOR NO. 5-68 MODEL A/C FLB SING 148401 IDENTIFICATION OF INDIVIDUAL A

NAME OF INDIVIDUAL (b) (6)

SECTION G

ESCAPE, PERSONAL AND SURVIVAL EQUIPMENT

LIST AND CODE IN ACCORDANCE WITH SECTION 8 OF INSTRUCTION: PHASE CODES: A-ACCIDENT/HISNAP E-ESCAPE/BURESS PHASE
 B-SURVIVAL R-RESCUE PHASE

1. EQUIPMENT DESCRIPTION INCLUDING SPECIFIC MODEL DESIGNATION	2. MODIFICATION	3. RE-REQUIRED	4. AVAIL-ABLE	5. NEED	6. USED	7. FAILED	8. REMARKS (Explain failures, loss, and/or difficulty encountered. Use additional 8x10 1/2 plain paper if needed.)
Helmet APH6, Med	BACSEC 2 & 20	Yes	AE	AE	AE		
Flgt suit, Mens, Summer Nomex		Yes	AE	AE	AE		
Boots, Flying, Steel Toe		Yes	AE	AE	AE		
Gloves, Leather flying		Yes	AE	AE	AE		
O2 Mask A-13-A Med.	BACSEB 16, 18	Yes	AE	AE	AE		
Reg., O2, Robert	BACSEC 11, ACSC60						
Shaw Fulton Mini- ature due 11MAR68	BACSEB 9-60, ASB-43 Amend I	Yes	AE	AE	AE		
Torso Harness MA-2 Large Long	ACSC-41	Yes	AE	AE	AE		
G-suit, Lg Long MK 11 A	BACSEB 251A, 12-62, BACSEC 4						
Seat Pan R5SK-1 due 17 MAR 68	BACSEC 24	Yes	AE				
PK-2 Life Raft	ACSC 11, 41, 21, & 74	Yes	AE	AE	AE		
Survival Knife, pilots	BACSEB 40-60A, 32-62, ACC 12, ACSC 35 & 101	Yes	AE				
Survival Knife, MC-1		Yes	AE				

SECTION H

NARRATIVE OF ESCAPE/EGRESS, SURVIVAL AND RESCUE PHASES

After the initial explosion or bang we started turning inbound trying to figure out what had happened. (1) I stored the radar gear (hand cont, scope, and panel) 12 miles. (2) Got out the emergency hand book. The Major and I discussed the procedures. (3) Decided to shut down port engine. I secured radar and tacan. (4) Checked straps to see if I was strapped in properly. Tightened seat straps and leg restraints. I don't think I consciously thought of escape right here. Subconsciously I double checked to make sure if the occasion arose, things would be okay. (5) Continued inbound, everything okay. (6) Started to smell fumes in cockpit. 6 miles. (7) Continued inbound, started to see smoke coming from intakes. This was the first time I thought we were going to have to get out. (8) Between three (3) miles and time of ejection, things happened very quickly. Circuit breakers started popping all over. I was trying to get them all back in. Smoke got worse. Major reported a control problem. (9) I was still bent over putting circuit breakers in when he yelled "get out, get out". I didn't wait one second, reacted immediately for the face curtain. I think I acted too quickly. From my bent over position; I sat up and reached all in one motion. Probably was not sitting in correct position at time of ejection. I believe my head was down but my back was against the seat. (10) NAV bag hanging from lower control knob of radar scope. Knee board still on my leg. (11) I remember hearing the drogue gun explosion and seeing the earth rapidly moving away. I felt the personnel parachute stop me and yank. (12) About 10 feet before impact with ground I realized everything worked as advertised. I really don't think I was thoroughly prepared for the impact. I landed in about 2 ft of marsh mud and just stayed there. Unhooked my parachute and seat pan, got up, checked to see if the Major was okay.

(CONTINUED IN ADDENDUM)

MOR NO.	MODEL A/C	BUNO	IDENTIFICATION OF INDIVIDUAL
5-68	F4B	118401	B

NAME OF INDIVIDUAL

(b) (6)

LIST AND CODE IN ACCORDANCE WITH SECTION 6 OF INSTRUCTION: PHASE CODES: A-ACCIDENT/SHAP B-ESCAPE/BOSSB PHASE
 C-SURVIVAL D-RESCUE PHASE

1. EQUIPMENT DESCRIPTION INCLUDING SPECIFIC MODEL DESIGNATION	2. MODIFICATION	3. RE-REQUIRED	4. AVAIL-ABLE	5. NEED	6. USED	7. FAILED	8. REMARKS (Explain failures, loss, and/or difficulty encountered. Use additional 8x10 1/2 plain paper if needed.)
M-B Parachute MBEU 5000 PA due 17 MAR 68	BACSEB 1-58, 2-59, 22-61, 49-61, 38, 38-61A; C&SEB 5&5 Rev 4 IACSC-50 ACSC 9A, 25, 41, 62 F-4 Air Frame Change 274	Yes	AE	AE	AE		
MK3-C Life preserver due 11 FEB 68	BACSEB 15-60, 4-62, 9&14 Int, BACSEC 21 ACSC 2 & 66A C&SEB 21	Yes	AE				
MB-MK5 H5 Seat- MBEU 1200-45 SerNo A3-41	AFC #274, 1231, 1252, 1258, 1191, 1341, 1378, 1381, 1384, 1299, 1304 & 1346 ACSC #4, 19, 24, 30, 38, 49, 56, 63, 80, & 99.	Yes	AE	AE	AE		

MOR NO. 5-68 MODEL A/C F4B SING 14840 IDENTIFICATION OF INDIVIDUAL B

NAME OF INDIVIDUAL (b) (6)

MOR 5-68 VMFA-312 F4B BuNo 148401 29 JAN 68 (b) (6)
ADDENDUM to Page 5 - Section H - Narrative of Escape/Egress

- (13) (b) (6) didn't start hurting until about 2 minutes after I landed.
(14) I landed about 75 feet from the Major and he landed about 80 feet from the plane. (15) I was calm throughout the whole ordeal, except possibly for the last few seconds when he yelled "get out." I think I might have reacted a bit too hastily and consequently was not positioned properly.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES.

SECTION I DETAILS OF ESCAPE/BOSS/SURVIVAL PHASES REFER TO SECTION I OF INSTRUCTIONS

1. TOPOGRAPHY OF INDIVIDUAL'S LANDING SITE
 WATER LAND OTHER Tidal marsh mud flat - low tide

2. TYPE OF EGRESS
 EJECTION BAILOUT UNDERWATER NORMAL OTHER (State type)

S	E	REMARKS
	<input type="checkbox"/>	3. NOT ATTEMPTED
	<input checked="" type="checkbox"/>	4. ATTEMPTED
	<input checked="" type="checkbox"/>	5. ACCOMPLISHED
	<input type="checkbox"/>	6. THRU CANOPY
<input checked="" type="checkbox"/>	NO	EGRESS DIFFICULTIES IF YES, EXPLAIN DIFFICULTIES
		7. PRIOR TO EGRESS
		8. DURING EGRESS
		9. SUBSEQUENT TO EGRESS

10. GIVE TYPE AND MODEL OF EJECTION SEAT USED MB-MK5 H5
 11. METHOD OF FIRING SEAT PRIMARY SECONDARY OTHER
 12. SEQUENCE OF EJECTION Second

13. POSITION OF SEAT ON EJECTION UP DOWN FORWARD AFT OTHER
 14. ATTITUDE OR MANEUVER OF A/C AT EXIT Wings level descending
 15. AIRSPEED 170-180 Kts

16. ALTITUDE AT TIME OF EXIT (FEET) ABOVE SEA LEVEL 100 ABOVE TOPOGRAPHY 100
 17. ALTITUDE OF PARACHUTE OPENING 30-40 feet
 18. WEIGHT (b) (6)

19. TIME IN WATER NA
 20. TIME IN RAFT NA
 21. WIND VELOCITY light 080/4Kts
 22. WAVE HEIGHT NA

23. WAVE INTERVAL NA
 24. AIR TEMPERATURE 69°
 25. WATER TEMPERATURE NA
 26. VISIBILITY 7

27. ALERTING FACTORS
 Visual sighting of accident
 28. MEANS OF LOCATING ACCIDENT SITE
 Visual sighting by motor vehicle
 29. MEANS OF LOCATING SURVIVOR
 Visual sighting

30. _____
 31. _____
 32. _____
 33. _____
 34. _____
 35. _____

SECTION J TRAINING FACTORS

1. DATE OF LAST TRAINING
 LPC 19 OCT 66 EJECTION TOWER 19 OCT 66 EJECTION SEAT 19 OCT 66 SURVIVAL 19 OCT 66

2. DID THE LACK OF TRAINING AND/OR EXPERIENCE PLAY A PART IN ANY PHASE OF THIS MISHAP? (If yes, explain)
 NO YES

MOR NO. 5-68 MODEL A/C F4B BUNO 148401 IDENTIFICATION OF INDIVIDUAL A

NAME OF INDIVIDUAL (b) (6)

SECTION I DETAILS OF ESCAPE/EGRESS/SURVIVAL PHASES REFER TO SECTION I OF INSTRUCTIONS

1. TOPOGRAPHY OF INDIVIDUAL'S LANDING SITE
 WATER LAND OTHER Tidal marsh mud flat - low tide

2. TYPE OF EGRESS
 EJECTION BAILOUT UNDERWATER NORMAL OTHER (State type)

S	E	REMARKS
		3. NOT ATTEMPTED
	<input checked="" type="checkbox"/>	4. ATTEMPTED
	<input checked="" type="checkbox"/>	5. ACCOMPLISHED
		6. THRU CANOPY
<input checked="" type="checkbox"/>	NO	EGRESS DIFFICULTIES IF YES, EXPLAIN DIFFICULTIES
		7. PRIOR TO EGRESS
		8. DURING EGRESS
		9. SUBSEQUENT TO EGRESS

10. GIVE TYPE AND MODEL OF EJECTION SEAT USED
 MB-MK5 H5

11. METHOD OF FIRING SEAT
 PRIMARY SECONDARY OTHER

12. SEQUENCE OF EJECTION
 First

13. POSITION OF SEAT ON EJECTION
 UP DOWN FORWARD AFT OTHER

14. ATTITUDE OR MANEUVER OF A/C AT EXIT
 Wings level descending

15. AIRSPEED
 170-180 Kts

16. ALTITUDE AT TIME OF EXIT (FEET)
 ABOVE SEA LEVEL 200 ABOVE TOPOGRAPHY 200 100 feet

17. ALTITUDE OF PARACHUTE OPENING
 100 feet

18. WEIGHT
 (b) (6)

19. TIME IN WATER
 NA

20. TIME IN RAFT
 NA

21. WIND VELOCITY
 light 080/4Kts

22. WAVE HEIGHT
 NA

23. WAVE INTERVAL
 NA

24. AIR TEMPERATURE
 69°

25. WATER TEMPERATURE
 NA

26. VISIBILITY
 7

27. ALERTING FACTORS Visual sighting of accident	30.
28. MEANS OF LOCATING ACCIDENT SITE Visual sighting by motor vehicle	31.
29. MEANS OF LOCATING SURVIVOR Visual sighting	32.
	33.
	34.
	35.

36. DID INDIVIDUAL DEPART FROM LANDING SITE?
 (If Yes, Explain reason and sequence up to rescue)
 NO YES

SECTION J TRAINING FACTORS

1. DATE OF LAST TRAINING
 LPC 21 MAR 67 EJECTION TOWER 21 MAR 67 EJECTION SEAT 21 MAR 67 SURVIVAL 21 FEB 67

2. DID THE LACK OF TRAINING AND/OR EXPERIENCE PLAY A PART IN ANY PHASE OF THIS MISHAP? (If yes, explain)
 NO YES

MOR NO. 5-68 MODEL A/C F4B SNO 148401 IDENTIFICATION OF INDIVIDUAL B

NAME OF INDIVIDUAL
 (b) (6)

Aeromedical Investigation revealed a number of areas regarding the egress which lend themselves to interesting speculation. It would appear, from the evidence provided by the landing positions of the aircrew, that had Major (b) (6) not jerked back on the stick, thereby placing the aircraft in an almost flat attitude (probably also creating a stalled condition), the resultant downward movement and forward ejection angle very likely would have caused him either to exceed the envelope and/or to land in the fireball. As it was, the pilot's chute opened a mere 30 feet AGL and he effected a landing less than 75 feet from the burning wreckage.

The Major, who is a trained parachutist, further attempted a two riser slip to prevent his drift towards the fireball. Certainly the pilot's familiarity with the escape system and parachuting made a new situation seem almost routine; consequently his emergence without injury.

The RIO experienced a little more difficulty during his exit for he was bent over in the cockpit at the time the command to eject came. His rapid return to the upright position, his tall sitting height, and selection of the face curtain vice the alternate handle may have contributed to his subsequent injury. With the seat fully lowered it is difficult for this man to pull the curtain without his head and shoulders assuming a slightly stooped attitude.

Several points of confusion arose after the crew landed safely. The SAR helicopter was in a down status - a situation which is all too common as there is no adequate back-up system (In fact two days later it was still necessary to utilize the flying club airplane to obtain aerial photos of the site).

A Coast Guard helicopter operating, by chance, in the area was summoned to remove the crew to the Naval Hospital (not connected with the air station), just as the duty flight surgeon arrived in the field ambulance. The hospital was not made aware of their arrival nor was anyone there cognizant of the aeromedical problems peculiar to an ejection. The derivative of all this was a delay in the recognition of the NFO's (b) (6)

(b) (6) by almost 2 1/2 hours and the loss of debrief value due to the fact that the aircrew statements were not taken until some 6 hours later (after many off-the-record conversations and speculations).

Fortunately both crewmembers were quickly located by visual sighting due to their having been in sight of the tower. Had this not been the case, however, the situation may have been further complicated by the lack of "seat beepers" or survival radios. The squadron has twelve survival radios and sixteen aircraft, therefore only the front seats on some of the aircraft have this most important survival item. The NFO's who are more likely to be harder to locate (and for that matter, statistically more likely to eject) due to the fact they will ordinarily be most distant from the wreckage are completely without this benefit. Neither seat in DR-09 was radio equipped.

Beaufort is surrounded by water and salt marsh, the vast majority of which is not accessible by foot or land vehicle. Without a boat or helicopter a survivor could easily be inaccessible to a rescue party and under normal circumstances a substitute helicopter would be well over an hour away. During the winter months this period of time might prove fatal to a downed airman. Most flights are planned over land and survival suits are not utilized, but it is impossible to not overfly water when taking off or approaching MCAS Beaufort and we know that these are the times an emergency is most likely to arise.

Based on the foregoing I would recommend:

- 1) Wider dissemination of the complete envelope of the escape system to include sink rate, dive angle, and attitude as well as altitude and air speed - I believe these will be even more valuable with the advent of the O/O seat, the capabilities of which may lure many pilots into situations where even this seat will be useless.
- 2) More emphasis on parachute technique and perhaps a steerable feature similar to the Air Force's four riser cut.
- 3) A recommended ejection procedure for those aircrew with tall sitting height.
- 4) A back-up aircraft be made available to SAR and procedure for obtaining a standby helicopter when ours is expected to be down for more than a brief period.
- 5) A crash boat be made a part of SAR facilities.
- 6) Survival radios be supplied for all aircrew members.
- 7) A heliport be placed next to the station dispensary.
- 8) That it be made clear to all that the duty flight surgeon shall direct the disposition of the involved aircrewmembers to insure a proper aeromedical examination and debrief.

MOR 5-68 VMFA-312 F4B 29 JAN 68 BuNo 148401 Pilot (b) (6)
SUMMARY, AEROMEDICAL CONCLUSIONS AND RECOMMENDATIONS, CONTINUED

9) That all aircrew be encouraged to utilize survival clothing and that survival clothing be developed and issued which will have greater aircrew acceptance.

- 3 -

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES.

MOR 5-68
ENCLOSURES

VMFA-312

F4B

29 JAN 68

B#No 148401

Pilot (b) (6)

1. X-ray spot film showing (b) (6)

Attention is directed to the following enclosures to the AAR as being pertinent to the investigation and conclusions of the MOR:

14. Aerial photograph of wreckage.

18. Diagram of wreckage

27. Ejection diagram.

SPECIAL HANDLING IS REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES.

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES
ENCLOSURE ()

MARINE FIGHTER/ATTACK SQUADRON 312
 Marine Aircraft Group 32, 2d Marine Aircraft Wing, FMFLant
 Marine Corps Air Station, Beaufort, South Carolina 29902

FLIGHT SCHEDULE FOR MONDAY 29 JANUARY 1968

(8029)

EVENT NO.	GRADE	PILOT/RIO	FLT CODE	MISSION	BRIEF	ETD	ETA	BRIEF CFF & REMARKS	TIME
1-1	MAJ	(b) (6)	B6	GCI-WPS-31 & 32	0600	0730	0915	NOTE 1	<u>2.3</u>
1-2	CAPT		B6	" "	"	"	"		<u>1.4</u>
1-3	CAPT		B6	" "	"	"	"		<u>2.0</u>
2-1	CAPT		G2	GCI-WPS-14 & 15	0615	0745	0930		<u>1.8</u>
2-2	CAPT		B2	EV 134	"	"	"		<u>CNX A/C</u>
3-1	MAJ		G2	30° B&R @	0630	0800	0945	NOTE 2	<u>2.0</u>
3-2	LT		B2	PINE CASTLE	"	"	"	TOT 0830-0900	<u>1.5</u>
4-1	LICCL		A6	INST III	1015	1145	1330		<u>2.0</u>
5-1	MAJ		A6	INST IV	1030	1200	1345		<u>1.9</u>
6-1	MAJ		G2	GCI-WPS-7,8,9	1100	1230	1415		<u>2.1</u>
6-2	CAPT		B6	" "	"	"	"		<u>2.1</u>
7-1	MAJ		G2	GCI-WPS-8,9	1200	1330	1515		<u>1.1 (AAR)</u>
7-2	CAPT		B6	" "	"	"	"		<u>1.1</u>
8-1	MAJ		G2	GCI-WPS-8,16	1500	1630	1815		<u>1.5</u>
8-2	LT		B6	NITE FAN II	"	"	"		<u>1.8</u>
9-1	CAPT		G2	GCI-WPS-13,14	1600	1730	1915		<u>CNX</u>
9-2	CAPT		B6	" "	"	"	"		<u>CNX</u>

SBO: LT (b) (6)
 SORTIES SCHEDULED 17
 SORTIES FLOWN 14
 HOURS SCHEDULED 29.0
 HOURS FLOWN 24.6
 SUNRISE: 0710
 SUNSET: 1745

RSO:EV-3 LT (b) (6)
 RDO/LSO: EV9 CAPT (b) (6)
 ODO:0600-0800 LT (b) (6)
 0800-1200 LT
 1200-1600 LT
 1600-Sec LT (b) (6)

(b) (6)

NOTES: (1)WORK IN AREA 030°-20-70NM NDC TACAN.
 (2)FLY LEG TO TARGET LOW LEVEL VISUAL NAV ONLY.
 6 MK-76 & 1 LAU 32 POD/A/C.
 (3)AOM RR @ 1015
 (4)CHECKMATE: LOST PLANE PROCEDURES W/and W/O RADIO.
 (5)STBY CREWS: MAJ (b) (6)
 CAPT

SCHEDULES OFFICER

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES

ENCLOSURE (2)

STATEMENT OF CAPTAIN (b) (6) JR (b) (6) USMC concerning
AAR 5-68A involving BuNo 148401 occurring on 29 January 1968,
Pilot: Major (b) (6)

Brief, taxi, takeoff and climbout were normal. Upon entering the operating area, we separated with DR-09 staying low to shoot snap-ups on us in DR-06 at 35-40 M. DR-09 shot one snap-up on us (we were at 35 M) then we climbed to 40 M. During our turn inbound, we got a port warning light and commenced an immediate descent. DR-09 joined on us and followed us down to touchdown. They waved off and we rolled out uneventfully. While taxiing back inbound, Ground Control instructed us to stop due to another emergency in progress. Lt (b) (6) the RIO in my aircraft saw a fireball in his mirror and we looked behind to see the smoke. Ground Control informed us it was DR-09.

I was designated a Naval Aviator in 1967. I have 320 total hours, of which 295 are in jet aircraft.

(b) (6)

STATEMENT OF 1STLT (b) (6) US.C concerning V.F. 312
MAR 5-68a involving F-4B BuNo 148401 occurring on 29 January 1968
Pilot: Major (b) (6)

On 29 January 1200, Major (b) (6) Lt (b) (6) Capt (b) (6) and myself were scheduled for a weapons hop. Major (b) (6) and Lt (b) (6) were assigned DF-09, Capt (b) (6) and myself DF-06. Brief, preflight, and take-off and approximately the first 30 minutes of flight were normal and by SOP.

At approximately 1600 DF-06 (40,000 feet 30 degree bank - 360 KAS, 100%) experienced a left fire warning light which extinguished when the throttle was retarded to idle. I called DF-09 (10,000 feet, 60 miles separation) our problem and intentions of landing as soon as possible. DF-09 joined on us at about 45 miles out looked us over and reported no evidence of fire. We informed tower we would be declaring an emergency and runway 04 was given as the duty.

At 8 miles the gear and flaps were lowered. A slightly high and fast approach with a very smooth landing was accomplished. As we kissed in I looked up to see DF-09 wave off with gear already up. The left engine was secured during roll out due to a flickering fire warning light. I was unstrapped as we cleared the duty and jumped out of the aircraft to check for an engine bay fire. I noted no fire so crash crew offered to follow us in with a truck. We had just received clearance to taxi (right engine), when ground called for a hold due to another emergency. We stopped and noted only an A-4 in the pattern. As I was looking around for another aircraft I saw a ball of fire in my mirror I yelled to my pilot, "check your six". I looked aft and the fire ball was just turning to smoke with the fire blazing. I noted no chutes. I called ground later to find out that DF-09 had just crashed. No more than 4 to 5 minutes could have elapsed from the time we landed.

(b) (6)

Transcript of Tower Frequency (340.2) concerning VMFA-312 AAR 5-68A involving F-4B BuNo 148401 occurring on 29 January 1968

AIRCRAFT

DX-06: A-4 VMA-324, MCAS, Beaufort
DR-06: F-4 VMFA-312, MCAS, Beaufort
DR-09: F-4 VMFA-312, MCAS, Beaufort
DA-108: C-117 H&MS-32, MCAS, Beaufort
DX-11: A-4 VMA-324, MCAS, Beaufort
VL-14: A-4 VMA-331, MCAS, Beaufort
DW-14: F-4 VMFA-251, MCAS, Beaufort
Paddles: Runway Duty Officer
CG 1402: H-3 from Savannah Coast Guard Station

<u>TIME TAPE</u>	<u>STATION</u>	<u>TRANSMISSION</u>
1557 3/4	DR-06 DR-09	Six is up. Nine's up.
1558	DR-06 Tower Tower DR-06 DR-09 DR-06 DR-09	Beaufort tower, Delta Romeo six. Were about forty miles north..uh..we got a fire warning on. Whats your duty runway? Delta Romeo zero six, Beaufort landing runway four. Altimeter three zero, three two. Delta Romeo zero six, tower. Roger six, stand by one. Zero six, zero six, squawk three zero six. Were going back JAX for about one minute and check out. WILCO And were joining up on your starboard side.
1559	DR-06 Tower DR-06 Tower DR-06	Beaufort tower, Delta Romeo zero six. This is ..uh..were thirty-five miles. Uh, we'll circle, we'll circle to land runway four. Ah..we'll be a little heavy. Uh..we will be declaring an emergency, over. Roger..uh..zero six roger. Do you desire to break, sir, or make it a straight in for runway four? We'll be making a straight in. Right, sir. Make a straight in approach for runway four. Report ten miles. Romeo six WILCO. We're at thirtythree miles. If you got other traffics, go ahead and land them right now. We'll call about fifteen miles out

TIME TAPE	STATION	TRANSMISSION
	Tower	Romeo six, roger, we have Delta Alpha one zero eight is also making a straight in approach runway four..Uh..and I'll get his position.
	DR-06	Roger
	Tower	One zero eight, tower. Say your position.
	DA-108	This is Delta Alpha one zero eight. We're approximately one seven miles out from runway zero four at this time. We're going to have to make a three sixty. It'll be four, five, six minutes before we'll be ten miles (gerblad).
1600	Tower	Delta Alpha one zero eight..ah..remain clear of the ten straight in portion to runway four. We have Delta Romeo zero six with fire warning light, is making a straight in approach runway four at this time. Ah..I'll give you a call when he is inbound from ten miles.
	DA-108	One zero eight copy. Do you know his position at this time, tower?
	Tower	Uh..he is inside of thirtyfive miles at this time.
	DA-108	One zero eight, roger.
	Tower	Romeo zero six, disregard the C-one seventeen making a straight in approach runway four at this time. You are number one, sir. I'll keep you advised. Say the trouble is in what engine?
	DR-06	We still got both of them turning and burning. The..uh..left fire warning light came on, stayed on, blinked awhile. System takes care of it. But it went out. Were going to make a normal engine landing. We got a playmate; he is looking us over. Were presently at twenty-five miles.
	Tower	Romeo zero six, roger. You're twentyfive north. Is that correct?
1601	DR-06	That's affirm. Were twentyfive north.
	Tower	Romeo six, roger.
	DX-06	Beaufort tower, Delta X-Ray zero six initial with two for touch and go over.
	Tower	Delta X-Ray zero six report overhead. You're number one from the initial.
	DA-06	This is X-Ray zero six, roger.
	DR-09	This is zero nine. We cant see any other fire externally.

<u>TIME TAPE</u>	<u>STATION</u>	<u>TRANSMISSION</u>
	Tower	Delta Romeo zero six, Beaufort tower. Approach control request squawk zero six zero zero and IDENT for radar identification.
	DR-06	Roger, zero six zero zero and IDENT
1602	Tower	Romeo zero six, tower. Request your position.
	Tower	Delta X-Ray zero six cleared to break.
	DX-06	X-Ray zero six.
	Tower	Delta Romeo zero six, request your position.
	DR-06	Romeo six is three six zero, sixteen miles.
	Tower	Zero six, roger.
	Tower	Delta Romeo zero six, Approach Control has you in radar contact.
	DR-06	Romeo six, roger.
	Unknown	Beaufort landing?
1603	Tower	Beaufort landing runway zero four. Altimeter three zero three two.
	DX-06	Tower, Delta X-Ray zero six off the one eighty, gear down, touch and go, over.
	Tower	X-Ray zero six, the wind zero seven zero degrees at two. Cleared for touch and go.
	DX-06	X-Ray zero six
	Tower	Romeo zero six, tower. If you desire, sir, you can make a five mile straight in.
	DR-06	Romeo six, roger. Were almost due west of the field at this time, twelve miles.
	Tower	Roger, sir, make a five mile short approach if you desire and report five miles straight in for runway zero four.
	DR-06	Romeo six, roger.
	DX-11	X-Ray one one is turning base. My gear indicates down and locked, touch and go.
	Tower	X-Ray one one, the wind is now zero eight zero degrees at two. Number two behind the A-four on final.
	DX-11	One one.
	Tower	X-Ray zero six, cleared downwind.
	DX-06	Zero six (garbled)
1605	Tower	X-Ray one one following the A-four approaching the one eighty, cleared down wind.

TIME TAPE	STATION	TRANSMISSION
	DX-11	One one roger.
	DX-06	Delta X-Ray zero six, one eighty. Gear down, touch and go, over.
	Tower	X-Ray zero six, wind calm, cleared for touch and go.
	DX-06	Zero six, roger.
	Tower	Delta Romeo zero six, tower has you in sight.
	DR-06	Romeo six, roger.
1606	DX-11	Tower, Delta X-Ray one one abeam. My gear indicates down and locked. Full stop.
	Tower	X-Ray one one, the wind zero nine zero degrees at two, number two behind the A-four on final.
	DX-11	One one, roger.
	Tower	X-Ray zero six cleared downwind.
1607	Tower	X-Ray zero six, cleared downwind (garbled).
	DR-06	Romeo six is ten miles.
	Tower	Romeo zero six, have you in sight. Continue.
	DA-108	Beaufort Tower, Delta Alpha one zero eight is also ten miles, runway zero four. I have two F-fours in sight turning into zero four. Is that the two in front of us?
	Tower:	Delta Alpha one zero eight, that is correct. Plan your approach to follow those two F-fours. you have in sight. That is the emergency aircraft.
	DA-108	Delta Alpha one zero eight, WILCO.
	Tower	And one zero eight, report five miles straight in.
	DA-108	One zero eight, five miles.
1608	Unknown	(garbled) Report VFR
	DX-06	Delta X-Ray zero six, one eighty, gear down, touch and go over.
	Tower	Delta X-Ray zero six, the wind calm cleared for touch and go.
	DX-06	X-Ray zero six, roger.
	Tower	Delta Romeo zero six, say your distance.
	DR-06	Romeo six, about eight miles.
	Tower	Zero six, roger.
	Tower	Delta Romeo zero six, say your wingman's call sign please.
	DR-06	Delta Romeo zero nine is the wingman. Were five miles, three down and indicated locked.
	Tower	Delta Romeo zero six, roger. The wind calm, you're number two following the A-four on short final cleared to land.

TIME TAPE	STATION	TRANSMISSION
1609	DR-06	Zero six, no joy on the A-four.
	Tower	He's over touchdown at this time, sir.
	DR-06	Roger
	VL-14	Beaufort tower, Victor Lima one four, initial, runway zero four.
	Tower	Victor Lima one four report overhead for break. We have C-one seventeen at nine miles and two F-fours making straight in approach at three miles at this time, and one A-four in the pattern.
	Tower	X-Ray zero six, at the far end of the runway cleared downwind.
	DX-06	X-Ray..X-Ray zero six roger.
	DA-108	Beaufort tower, Delta Alpha one zero eight, five miles.
	Tower	Delta Alpha one zero eight, you are number two behind the two A-fours. Correction, two F-fours on short final.
	DA-108	One zero eight.
	Tower	And one zero eight, is your gear down and locked, sir?
	DA-108	One zero eight, roger. I'll give you a call.
	Tower	One zero eight.
	Tower	Romeo nine, tower, your intentions, sir?
DR-09	This is zero nine. Were going to depart the pattern and fly locally for about fifteen minutes.	
Tower	Zero nine, roger.	
1615 3/4	-----	SIX MINUTES
	DR-09	Beaufort tower, Delta Romeo zero nine requesting straight in to two two. We've got a fire warning light. We'll shut down the left engine if we still got the light. Dumping fuel now. We are presently fourteen miles from approach end of runway, over.
1616 1/4	Tower	Delta Romeo zero two departing two F-fours off of runway four present time.
1616 1/2	Tower	Romeo zero two, tower. Are you requesting a straight in for twenty two?
	DR-09	Romeo zero nine. Request a straight in to two two roger.
	Tower	Romeo zero nine, say your distance.
	DR-09	Were presently at one two miles, twelve miles.
	Tower	Whiskey one four and flight make an immediate right turn. We have an emergency aircraft straight inbound for runway two two at this time. He is ten miles.

TIME TAPE	STATION	TRANSMISSION
	DW-14 DX-06	One four, WILCO.
	Tower	Tower Delta X-Ray zero six turning final, one eighty, gear down. Full stop.
		X-Ray zero six, go around. We have an emergency aircraft straight in for runway two two at this time.
	DX-06 Tower	X-Ray zero six going around. And Romeo zero nine report three miles straight in for runway two two and altimeter is three zero three two.
1617	DR-09	Ah.. this is..ah.. this is zero nine.
		ah..we'll come..This is zero nine, were starting to have some..ah..control difficulties, and we
	Tower	ah..we will be attempting a streigh in on two two. Romeo zero nine, you are cleared to land runway two two. And X-Ray zero six cleared downwind.
	DX-06 DW-17	Zero six. Whiskey one seven is airborne. Lets switch channels.
1617 1/2	DW-14 Tower	One four roger, button seventeen. Romeo nine, the wind is calm at this time.
1618 1/4	Tower	Romeo zero nine, tower. Have you in sight, cleared to land runway two two. Use caution; the chain arrest at the approach end is in battery.
1618 3/4	DX-06 Tower	X-Ray zero six, at the one eighty. I'll go around high end on the inside. Six, roger.
1619	DX-06 Tower	Telly-ho the explosion? X-Ray six, that is correct. We have them in sight, and you're cleared to land at t is time.
	Paddles: Tower	Tower, Paddles, did you see the chutes? Yes sir, we saw the chutes. I counted two.
1619 14	Paddles	Roger, thats what I got.
1619 1/2	Tower	And six, do you have gas enough to overfly the aree and take a quick look?
	DX-06 Tower	Six, thats affirmative. Correct sir. Proceed straight up the runway and see if you can spot the chutes. And if you
		can, sir tell us where those airplanes is in the ground.
	DX-06	Zero Six

TIME TAPE	STATION	TRANSMISSION
1620 1/4	Paddles	Tower, this is Paddles. Can you say again the aircraft and number?
	Tower	R nine.
	Paddles	Say again, please.
	Tower	Romeo nine.
1620 3/4	Tower	X-Ray six, you're about in the position now, sir. Do you see anything?
	DX-06	X-Ray six, I see one chute. The pilot seems to be okay. It's about one hundred yards north of the crash site.
	Tower	Understand the pilot is hundred yards north of crash site. Is that correct.?
	DX-06	That's affirmative; clear of the marshy area.
	Tower	Alright sir. Do you see another chute?
	DX-06	That's a negative. I'll make a three sixty here.
	Tower	Six, roger.
1621 1/4	Tower	And six, could you give me an estimate of the distance off the approach end, please sir.
	DX-06	Six, estimate about..ah..three, four thousand feet off end of the precipice about..ah.. The crash site is about two hundred yards from the..ah, ah..Boundary Road.
1621 3/4	Tower	Alright..ah.. six, roger.
1622 1/2	DX-06	Tower, zero six. I'm still unable to spot the other chute. I'll make one more three sixty, I guess.
	Tower	Zero six, roger. And..ah..thank you very much for your cooperation.
	DX-06	Tower, zero six. Has crash crew located the other chute, yet?
1623	Tower	Uh..six, say again. You were cut out, sir.
	Tower	Victor Lima zero six, we have a crash truck at the crash site at this time.
	Tower	Correction, that's X-Ray six, we have a crash truck at the crash site at this time.
	DX-06	Zero six.
1623 1/2	Tower	X-Ray six, is there any possibility that the second chute could have gone into..uh..the river out there.
	CG 1402	Coast Guard copter one four zero two.

TIME TAPE	STATION	TRANSMISSION
	Tower	Coast Guard copter one four zero two, this is Beaufort tower, go ahead.
	CG-1402	Roger, Beaufort, Coast Guard one four zero two is..ah..about four miles to the north-east of the Air Station at this time. Enroute, we have the smoke of the crash in sight. I did not catch the chutes. I did not see the chutes, over.
1624	Tower	One four zero two, roger. We have an A-four circling the site at this time, and he says one chute is spotted one hundred yards on the other side, that is on the north side of the crash site. He does not have the second chute in sight.
	CG-1402	Roger
1624 1/4	Tower	And one four zero two, we do not have you in sight at this time.
	CG-1402	Roger, one four zero two is proceeding inbound from St Helena's Sound, over.
	Tower	And X-Ray six, we have a Coast Guard helicopter inbound from the north-east, and he'll be going to the crash scene. Use caution, sir.
	DX-06	X-Ray zero six.
	Tower	And X-Ray zero six, whats your altitude?
	DX-06	X-Ray zero six, I'm level at fifteen hundred.
	Tower	X-Ray zero six, roger
1625	Tower	And, one four zero two, we have an A-four circling the crash site. He's at one thousand five hundred.
	CG-1402	Roger, I'll be at one thousand feet or below.
	Tower	One four zero two, roger.
	Tower	And X-Ray six, check your fuel, sir.
	DX-06	X-Ray zero six, still pumping.
1626	No Transmissions	
1627	DX-06	Tower, this is zero six. I'm still unable to spot but one chute. I dont believe I can do any more good so I'll be entering downwind at uh..twelve hundred feet. I dont have..uh..no joy on the copter though.
	Tower	X-Ray zero six, roger. Enter downwind to runway four from your present position. Altimeter is now three zero three one.

<u>TIME TAPTE</u>	<u>STATION</u>	<u>TRANSMISSIONS</u>
	DX-06 Tower	Zero six. One four zero two, Beaufort, what is your position at this time.
1627 1/2	CGL402 to Tower CGL402 Tower	Roger, Beaufort, I'm about two and a half miles to the north-east...north-east of the crash scene at this time. One four zero two, roger. The A-4 is departing the scene at this time. Roger, and I have an aircraft in the vicinity at this time in sight. Uh..one four zero two, the A-four is on a down-wind leg for runway four at this time. He is well clear.
1628 1/2	Tower DX-06	And Delta X-Ray zero six, the wind now zero nine zero degrees at four. Cleared to land. X-Ray zero six turning from one eighty.
1629 1/2	Tower CG-1402 CG-1402 Tower	One four zero two, Beaufort tower. Have you in sight. One four zero two, roger. And..sh..Beaufort can you have the aircraft that reported the chutes, can you have him locate them in relationship to the smoke? One four zero two, will do.
1630	Tower CG-1402 DX-06 Tower Tower CG-1402	One four zero two, the crash personnel on scene report that both pilots are out of the aircraft and appear to be alright. And were getting a position for you at this time. One four zero two, roger Tower, zero six, they're directly in line with the runway, about a hundred and..uh..fifty yards on the other side of the smoke. Zero six, thank you. One four zero two, the aircraft reported that the pilots are directly in line with the runway about a hundred yards Or approximately on the other side of the smoke from the runway. Uh..fourteen oh two, roger. And..uh..We'll look around out here.

TIME TAPE	STATION	TRANSMISSION
1631	DX-06 Tower Tower CG-1402	X-Ray zero six, right turn off. Zero six, right turn approved. One four zero two, if you are able, sir, report the pilots in sight. One four zero two, WILCO, as soon as pilots are in sight.
1631 1/2	CG-1402 Tower CG-1402 Tower	Okay. I..uh.. this is one four zero two. We have the personnel in sight. One four zero two, roger. Would you like them picked up and flown back to operations at Beaufort? One four zero two, Operations requests that you take them to Parris Island Naval Hospital.
1631 3/4	CG-1402 Tower	One four zero two, say again, please. Oh zero two, stand by.
1633 1/4	CG-1402 Tower	Beaufort, Coast Guard, one four zero two, both pilots are aboard. Where do you want them delivered? Coast Guard one four zero two, we desire you take the pilots to the Beaufort Naval Hospital. Are you familiar with that, sir?
1634	CG-1402 Tower Tower CG-1402 Tower CG-1402	One four zero two, thats affirmative, and we'll be about five minutes enroute. One four zero two, roger. And one four zero two, do you desire a vector to the hospital or do you desire to go over VFR? This is one four zero two a vector'd help, and I'd like to climb out over the airport if possible. One four zero two climb out is approved and contact Beaufort departure control on frequency three one four point zero. Three one four zero, going.
1635	No transmissions	

STATEMENT OF MICHAEL HAZEL concerning VFWA-312 APR 5-68A involving
F-4B BuNo 148401 occurring on 29 January 1968. Pilot: Major (b) (6)

I am a fisherman.

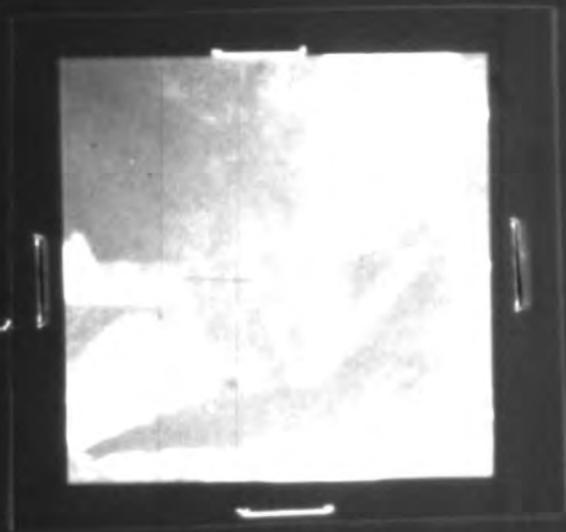
On 29 January at approximately 4 PM I was in my boat near Point
Creek. I heard a popping noise and looked up. I saw an airplane with
smoke and fire heading for the ground. The airplane looked like the
model I have been shown and I have pointed out the area where the smoke
and fire were pouring out. The people were out of the airplane when I
saw it. It hit the ground straight in and exploded. I then left the
area.

This statement is true to the best of my knowledge and the picture
attached shows me pointing to the area where the smoke and fire were
pouring out.

MICHAEL HAZEL

Michael Hazel
CERTIFIED A TRUE COPY

CONSIDERED TO BE A CREDITABLE WITNESS



1

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INST 3750.6 SERIES

ENCLOSURE (6)

STATEMENT of GySgt (b) (6) concerning VFA-312
AAR 5-68A occurring on 29 January 1968. Pilot Major (b) (6)

I was on duty in the MCAS Beaufort Control Tower, working the Local Control position. At 2116Z DR-09 reported a fire warning light, one engine out. The pilot reported his position to be ten (10) miles north of the airport.

The pilot requested a straight in approach to RWY 22. I approved his request. At this time the pilot reported control difficulties. I then gave the pilot the wind and altimeter, and clearance to land RWY 22. Visual contact was established with DR-09, and reported to the pilot, and once again issued landing clearance. I also advised pilot of abort chain at the approach end of RWY 22. At first sighting DR-09 was in a high right base (45) position for RWY 22. I could see no smoke. Upon turning final the aircraft started to trail white smoke from the fuselage area. At this time I observed the pilot and RIO eject from the aircraft, and their parachutes deploy. The aircraft crashed in a wing level, nose down attitude. The time of crash and pilot ejection was 2119Z.

I have eight (8) years experience in Air Traffic Control. I am a senior control tower operator, IFR ground control approach controller, and qualified approach controller.

(b) (6)

CONSIDERED TO BE A CREDITABLE WITNESS

STATEMENT of Corporal [REDACTED] US C concerning VMFA-312
AFR 5-68A occurring on 29 January 1968. Pilot: Major (b) (6)

At the time of the incident I was on duty in MCAS Beaufort Tower supervising the control positions. GySgt (b) (6) the crew chief was working local control, position 12, when I overheard DR-09 report 10 miles north of the field with a fire warning light. A few seconds later the pilot reported one engine out and control problems. I immediately proceeded to activate the Primary Crash circuit.

The landing runway at the time of the incident was four (4), but due to the position of the aircraft he requested to land runway 22.

When I first sighted the aircraft he was turning off a right hand base leg. When he straightened out on final I observed what appeared to be white smoke coming out of the aircraft which then turned black.

A few seconds later I saw what was easily identifiable through binoculars as two seats then the parachutes leave the plane. I then followed the aircraft to the ground and observed a large fireball rise above the tree level, about $\frac{1}{4}$ mile from the approach end of runway 22.

GySgt (b) (6) then activated the Primary Crash system again to report the actual crash at 2119Z.

When the Crash Crew got to the scene they reported the Pilot and RIO in sight and that they appeared to be in satisfactory condition.

A Search and Rescue helicopter from Savannah was called in to aid the rescue. When they got to the scene the helicopter picked up the two men and took them over to the Naval Hospital.

I have two years experience in the Air Traffic Control Field. I hold a Senior Control Tower Operator's Certificate for MCAS Beaufort.

(b) (6)

CERTIFIED A TRUE COPY

CONSIDERED TO BE A CREDITABLE WITNESS

STATEMENT OF 1st Lieutenant (b) (6)
USMC, concerning VMFA-312 AAR5-68A involving F-4B BuNo
148401 occurring on 29 January 1968, Pilot: Major (b) (6)
(b) (6)

At approximately 1615 on Monday, 29 January 1968, I was positioned at the 6000 foot turnoff of runway 22 waiting for DR-09 which was on a straight in emergency approach with a fire warning light, left engine secured and control difficulties.

I observed the aircraft off the approach end of runway 22 approaching the station at a high rate of speed. He was dumping fuel and was low in the groove. Further, the aircraft appeared to be on fire along the belly and was trailing gray smoke. When it was approximately two miles from my position it appeared there was an explosion. I noticed something blown out to the right of the aircraft. This was followed by a slight nose down attitude and two rapid ejections. During the next few seconds my eyes left the aircraft to broadcast the ejection and to get my truck rolling. When I looked again there was a huge fireball. I drove directly to the crash site and tried to find the pilot and RIO. After a few minutes I observed both these men on their feet and apparently in good health. We extinguished the fires and stood by for the accident board.

(b) (6)

CONSIDERED TO BE A CREDITABLE WITNESS

STATEMENT OF Master Sergeant (b) (6) USMC, concerning
VFPA-312 AAR5-68A involving F-4B BuNo 148401 occurring on 29 January 1968,
Pilot: Major (b) (6)

On 29 January 1968, at the time of the crash I was riding in Beaufort 10 (Crash Reserve Command Vehicle). We had taken a position on the taxiway near the 6,000 foot marker for runway 22, waiting for PR-09 to land as he had declared an emergency with a fire warning light.

I observed the aircraft making what appeared to be a low, fast approach for runway 22. As he lined up on the runway I noticed he was either dumping fuel or trailing light smoke and a small yellow glow under the aircraft. Before I could make any comment or ascertain what caused the glow, I noticed what appeared to be a portion of the aircraft fly off the right side. This was immediately followed by the ejection of the RIO and Pilot. The aircraft nosed down and disappeared behind trees. This was followed by a large fireball.

We immediately responded to the scene and spent the first few minutes locating the pilot and RIO. When located they were both on their feet and appeared in good health although one said he had a (b) (6)

(b) (6). A Coast Guard helicopter appeared on scene at this time and was directed in to pickup the two men and take them to the hospital. All efforts were then directed at fire fighting.

This is a true statement to the best of my knowledge.

(b) (6)

CONSIDERED TO BE A CREDITABLE WITNESS

STATEMENT of Major (b) (6) continued.

As I prepared to enter the climb a loud bang similar to a compressor stall occurred. I retarded the power on both engines slowly to 80% and commenced a gentle climbing turn toward NCAS, Beaufort. We were about 15 miles north-northeast of the field. I told Lt (b) (6) we've lost something off the aircraft. I checked the engine instruments and reported both engines normal. Then the left fire warning light dimly flickered on. The rest of the instruments looked good. I retarded the power to idle on the left engine and the light continued to flicker but more dimly, the light finally went out so I tested the fire warning circuit. None of the lights came on. The left warning light came on again at this time and was brighter than previously.

The right engine looked good so I informed Lt (b) (6) that I was securing the left engine. I advanced power on the right engine to 90%, and everything looked good. When the left generator dropped off the line the Stab. Aug. disengaged. I turned the left generator switch to off, but did not turn the left engine master off. I told Lt (b) (6) to inform the tower of our problem and tell them that we would land straight in to runway 22. We were getting pretty close to the field and descending slightly at 260 Kts when I told Lt (b) (6) I was lowering the gear. He mentioned the excess speed so I eased to nose up to decrease the air-speed and lowered the gear. The nose gear was a little slow extending but as we lined up we were about 3 miles from the runway. Then another loud bang shook the aircraft and shortly after that Lt (b) (6) said that about nine circuit breakers had popped. He also said smoke was coming from the intakes. I checked the right mirror and a lot of grey smoke was coming from the louvers on top of the intake. We were about 2 miles from the runway at this point with about 600 feet altitude. Lt (b) (6) said that he was getting smoke in the cockpit and I noted smoke entering my cockpit as well. The aircraft seemed to be settling and the explosions were getting louder and more frequent. It was apparent that we would not make the runway and I shouted "get out" twice and Lt (b) (6) ejected immediately. I reached for the curtain but the nose dropped rapidly. I knew I was low and didn't want excessive sink, I grabbed the stick, pulled it back and the nose came up and I then ejected about two (2) seconds after Lt GRIMM.

I was designated a Naval Aviator in 1957. I have 3100 total hours, 2500 of which are in jet aircraft.

(b) (6)

2
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPMNAV INT 3750.6

ENCLOSURE (11)

STATEMENT of 1stlt (b) (6) USICR concerning WPA-312
AAR 5-68A involving F-4B BuNo 148401 occurring on 29 January 1968.
Pilot: Major (b) (6)

Twelve o'clock brief with Major (b) (6) and Captain (b) (6) 1stlt (b) (6). Normal brief given by Major (b) (6) utilizing briefing guides; Lt (b) (6) briefs weapons. Weapons 8 and 9, which are 180 degrees and FQ Snap-Ups. Bogey at 35,000 and fighter at 25,000. Twentyfive miles; Start climb, keep dot low on ASE circle. Approach Fox 1 center dot, breakaway. Pointed out to keep an eye on overtake and airspeed. Do not get into an attitude on your back. Keep dot low or you'll chase it and never catch it as you airspeed will bleed off. If that (1st run) works okay, Bogey 40,000 and fighter 10,000. We were going to try and get Tarheel High area. Called MACS-9 and briefed them. Found you can go directly to JAX center on 269.6 (Button 9) and request clearance. Brief finished, we waited for sirsere t.

Thirteen fiftyfive, aircraft up and pre-flighted. Went to line shack and signed yellow sheets. Put gear on and pre-flighted aircraft. Strapped in, run up, everything normal. Flight checked in on Button 17. Switched flight to button 1 for taxi. Taxied to runway 4 and started run-ups. Instruments checked out normal. Engine (Port) 99.5%, right 101.5%; oil pressure (Port) 52, (Starboard) 55. Switched flight to button 2 for takeoff (with hand signals), called tower for take-off. Took position, everything okay.

Fourteen seventeen, rolling, lift off 147 knots, gear up, flaps up, everything okay. DR-06 called airborne and I switched flight to button 9 for JAX Center. Checked in with JAX center and requested Tarheel High. Tarheel High negative - gave us Tarheel West. We were at 19,000 ft and north of Beaufort. Switched flight over to Chieftan on button 16. RIO in with them normally. Requested Kaiser control frequency; Kaiser site was down so we switched to button 17 and talked it over. Decided to run self contained on Q20 radial on channel 42. Took separation, 09 heading outbound, 06 heading inbound. Got about 45 miles separation and we turned inbound at 18,000 bogey at 35,000 feet. Did not find bogey until too late. Bogey flew overhead and we skipped it. DR-09 got inbound, 06 out. Turned with about 47 miles separation. Contact 20 miles - climbed, centered dot and we Foxed 1. Broke starboard and got outbound, 06 in.

At fourteen fiftyfive, got separation, 06 called and reported Fire Warning Light. We turned to join up while they started toward home plate. Joined up about 30 miles from field. Checked them over and looked okay. Escorted 06 to field. Enroute I checked out with JAX center, told them of problem. Checked out with Chieftan also. Escorted 06 on his port side and he landed on runway 04. We ~~aligned~~ paralleled runway and then turned north at 1500 to 2000 feet. Gained altitude to around 5,000 feet.

STATEMENT OF 20LT (b) (6) continued:

Major (b) (6) asked me if I had ever done a high energy climb. I didn't understand. He said a Zoom climb like a S&W UP maneuver. I said no. He said okay lets drop down to around 2,500 feet and get about 500 KTS to keep us out of AFC, heading about 030 degrees. We dropped down and got about 485 KTS and heard a ~~warning~~ "Warning". Everything in the cockpit checked normal. Ten seconds later port Fire Light came on and flickered. Engine brought back to normal. Still flickered. We were in a Std rate (type) Starboard 1, turn, and steadied up on 220 degrees on to 035 degrees radial at 12 miles. Fire light still on secured left. Had NATOPS emergency Pocket Checklist out. Read it off, secured radar, stowed it, secured TACAN. Called tower and told them we wanted a straight in to 22 and had a fire warning light. Before this the Major was going to 04. Winds were calm so 22 was perfect since we were lined up on it. Wheels were down, flaps at $\frac{1}{2}$ and we were prepared to make a single engine landing. About 8 miles from touchdown and started to smell fumes, smoke type. Told pilot. We still continued about 6 miles, observed smoke (gray) billowing from both intakes. Told Major we wont make it on fire, continued down. At 5 miles, circuit breakers popped all over the place. Remember ARI circuit breaker and Ext Fuel and Fire warning light. Told Major circuit breakers popped all over. Attempted to put all back in. They were random breakers and I cant remember which ones, but mentioned smoke billowing. Major yelled " get out, get out". Reached over my head, pulled the curtain and was gone. Everything went as advertised. Saw my canopy flying away. Saw aircraft burning.

Hit the deck up to my knees in mud. Pilot okay. I was okay except for (b) (6). Probably in wrong position. SAR helicopter arrived 10 minutes later. Went to Naval Hospital.

(b) (6)



AERIAL VIEW OF CRASH SITE DIRECTLY IN LINE WITH
FLIGHT PATH.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OREGONIST...
(19)

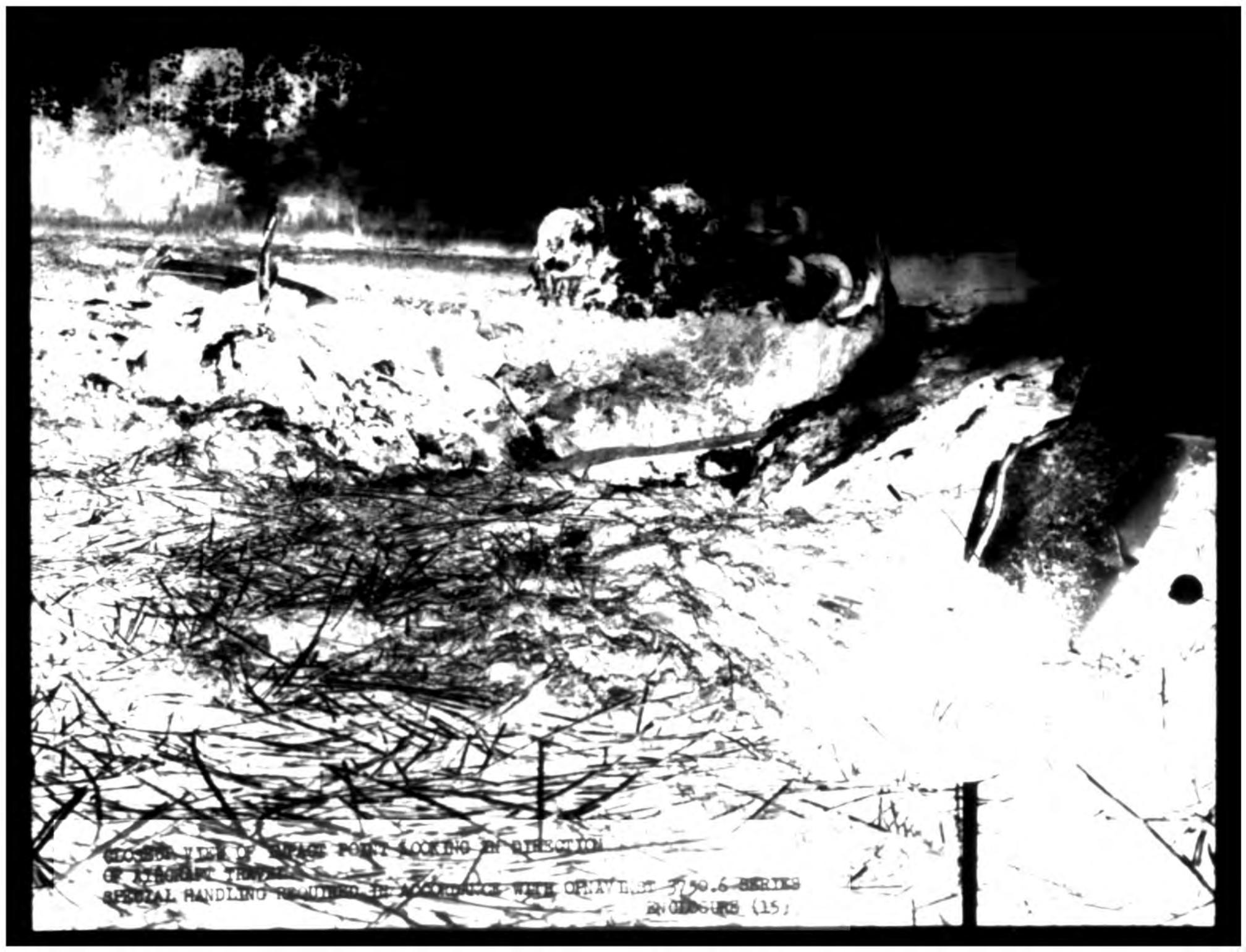


AERIAL VIEW OF CRASH SITE, WRECKAGE, AND BOTH CHUTES.

NOTE RUNWAY 22 OVERRUN IN UPPER LEFT HAND CORNER.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH: OPNAVINST 3750.6 SERIES

ENCLOSURE (14)



GROUND VIEW OF BEACH POINT LOOKING IN DIRECTION
OF TROOP CAMP
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAV INST 3750.6 SERIES
ENCLOSURE (15)



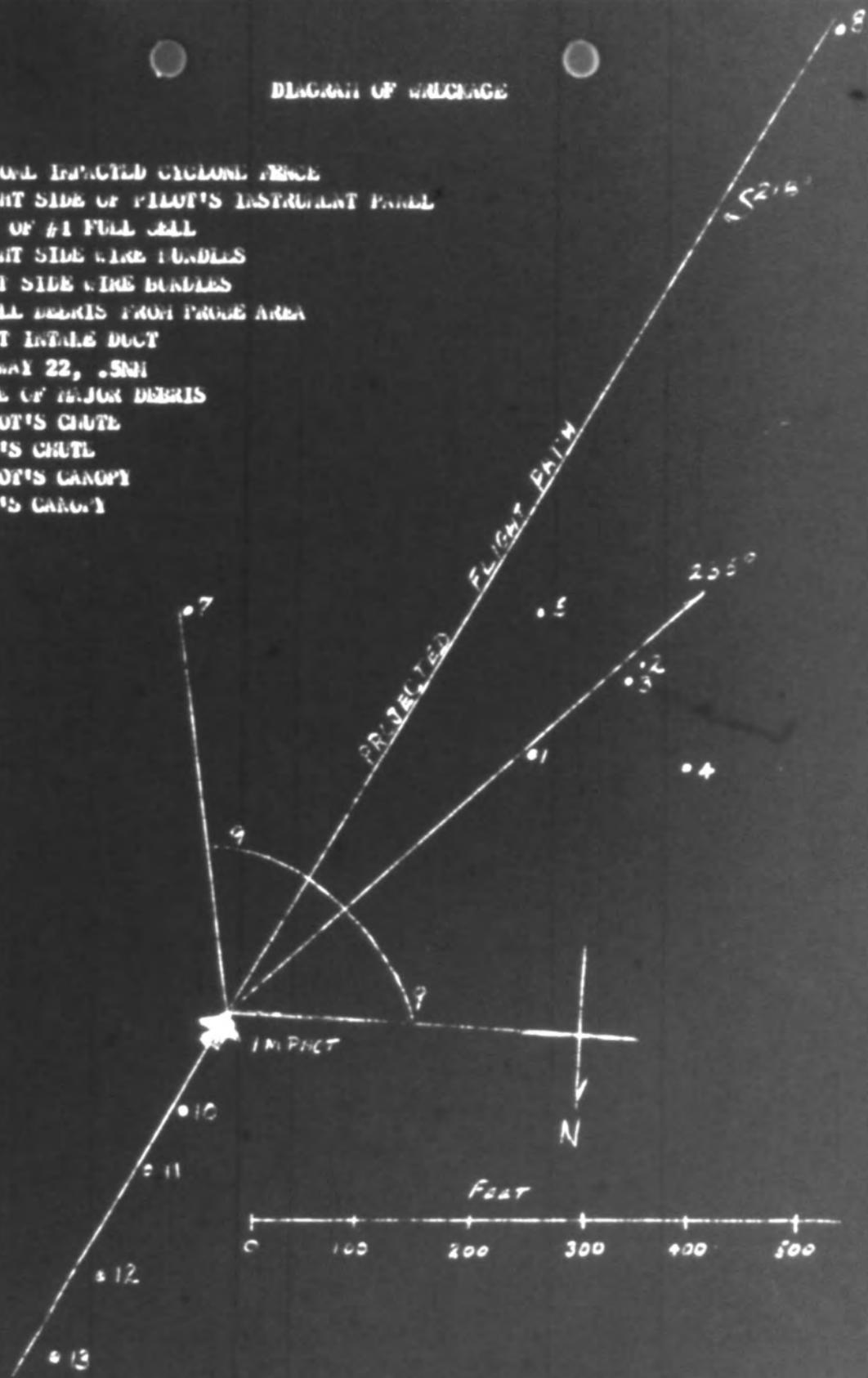
SIDE VIEW OF WRECKAGE SHOWING ONE TWO LARGEST
PORTIONS OF WRECKAGE THE TAIL (LEFT) AND ENGINES (RIGHT).
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES
ENCLOSURE (16)



VIEW OF WRECKAGE OPPOSITE THE DIRECTION OF AIRCRAFT
TRAVEL.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH COMAVINST 4750.6 SERIES
ENCLOSURE (12)

DIAGRAM OF WRECKAGE

1. WINDWARD IMPACTED CYCLONE BRICE
2. RIGHT SIDE OF PILOT'S INSTRUMENT PANEL
3. TOP OF #1 FULL CELL
4. RIGHT SIDE WIRE BUNDLES
5. LEFT SIDE WIRE BUNDLES
6. SMALL DEBRIS FROM PROBE AREA
7. LEFT INTAKE DUCT
8. RUNWAY 22, .5MI
9. CORE OF MAJOR DEBRIS
10. PILOT'S CHUTE
11. RIO'S CHUTE
12. PILOT'S CANOPY
13. RIO'S CANOPY



SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPRAVINST 3750.6 SERIES

ENCLOSURE (18)

STATEMENT of Captain (b) (6) USMC concerning VMFA-312
AAR-5-68A involving F-4B BuNo 148401 occurring on 29 January 1968.
Pilot: Major (b) (6)

I, (b) (6), on January 26 1968, while flying aircraft DR-09, was fighter on missile intercepts and we were rolling out on a re-attack; power was at 100% military; the port engine fire warning light flickered dimly, went out, came on again and proceeded to glow brightly for about three seconds. Power on the port engine was immediately brought to idle and no other flickerings were observed. I pushed the fire warning circuit test but the port engine fire warning light would not illuminate, although the warning lights on the right engine and the overheat light on the port engine illuminated. Testing the warning light bulbs, I found that the bulbs in all fire and overheat systems were good. No other indications of fire were observed and the lead aircraft was informed of the situation. We proceeded back toward the field while the lead joined to check visually outside the aircraft. No indication of fire could be seen. We dumped wing fuel while descending for a straight in approach. Numerous checks of the fire warning circuit and bulbs gave the same results, the bulbs were good but the circuit wouldn't check out. At one time on final, at the precise moment that the port engine was advanced to 80% the fire warning light flickered once more and went out. After landing and turning off the runway I checked the fire warning circuit and found it checked good. I downed the aircraft upon signing off the yellow sheet.

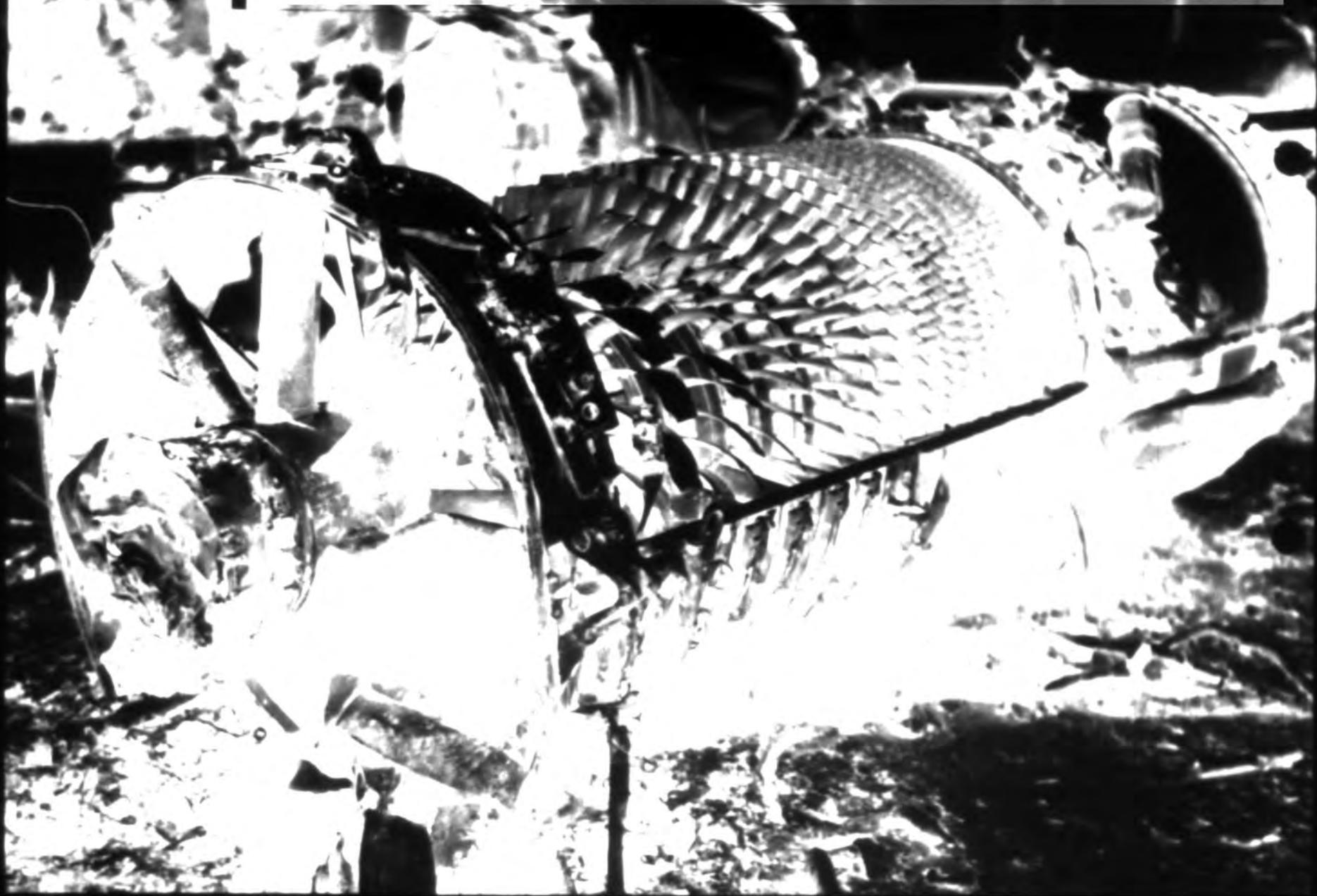
I was designated a Naval Aviator in 1967. I have 355 total hours, 324 of which are in jet aircraft.

(b) (6)

VIEW OF LEFT ENGINE WITH COMPRESSOR CASE
REMOVED. NOTE NO ROTATIONAL DAMAGE
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPREP-50.F SERIES
SERIES (21)



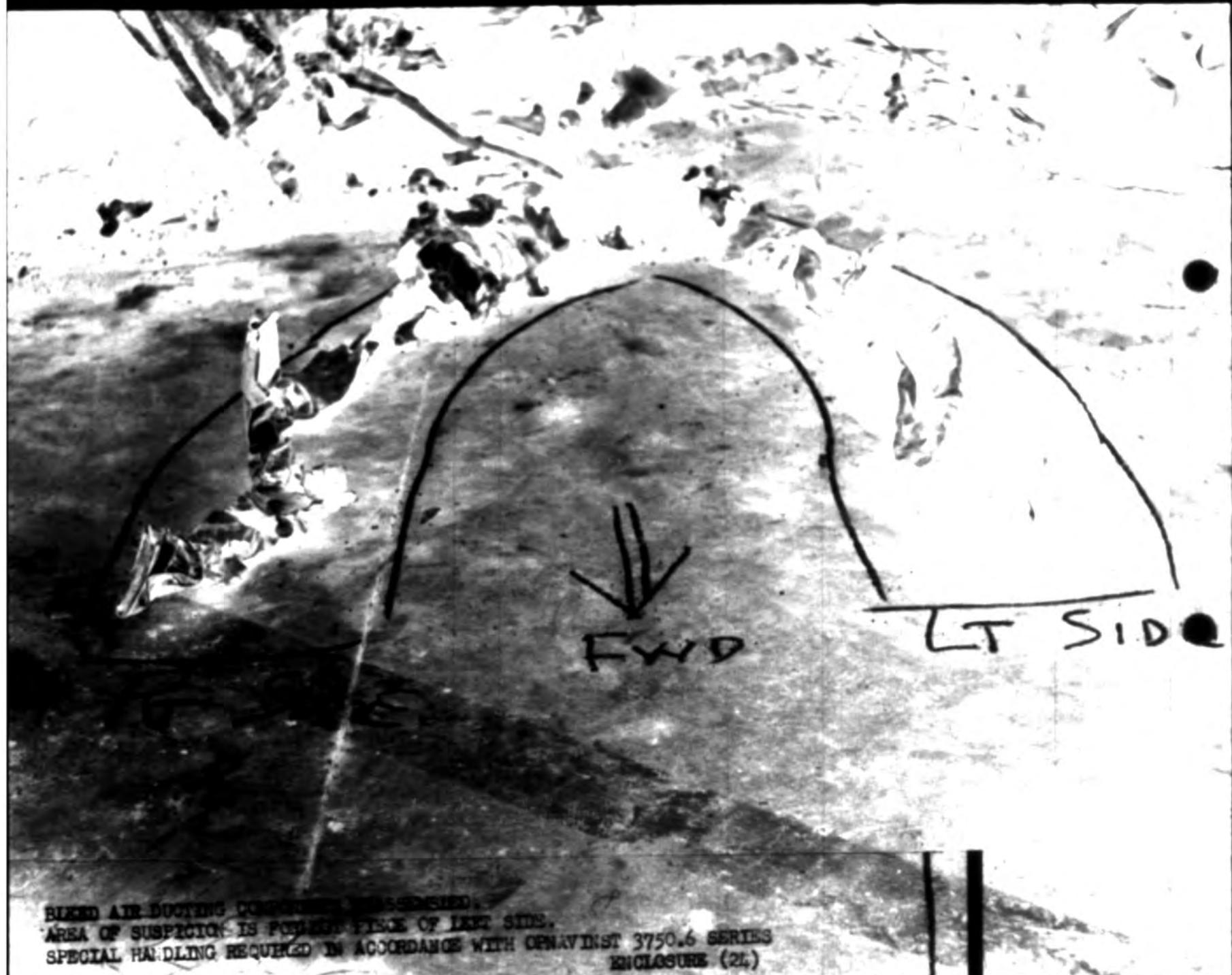
VIEW OF RIGHT ENGINE COMPRESSOR CASE
REMOVED. NOTE SMALL AMOUNT OF ROTATIONAL DAMAGE.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH ORAVIAST 1111.6 SERIES
11/21/70 (12)





COMPONENTS IN DOGS-22 AREA WITH EVIDENCE
OF IMPACT FIRE.

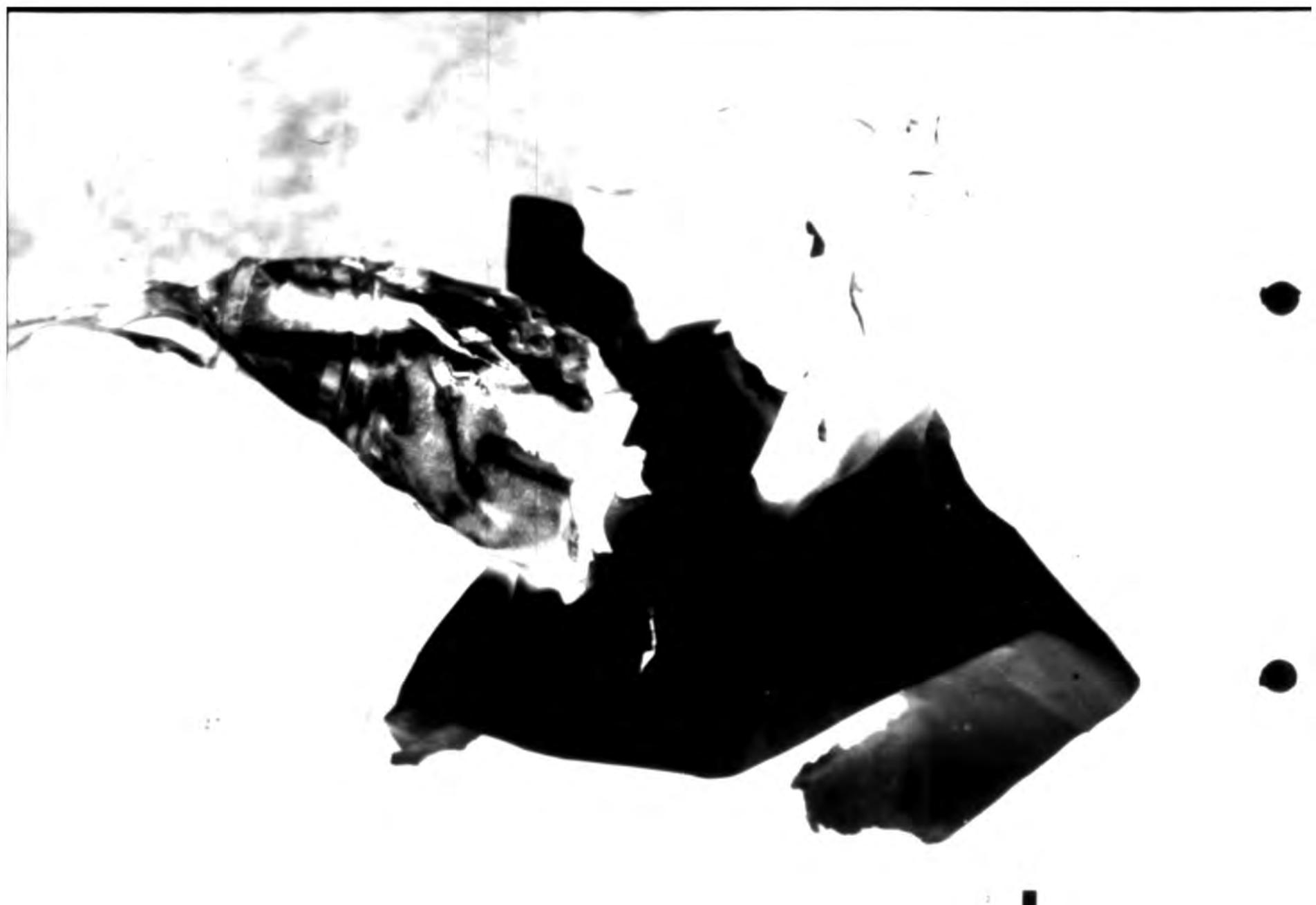
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH GENAVINST 3750.6 SERIES
ENCLOSURE (23)



BLEED AIR DUCTING COMPONENTS DISASSEMBLED.
AREA OF SUSPECTION IS FORWARD FACE OF LEFT SIDE.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES
ENCLOSURE (2L)



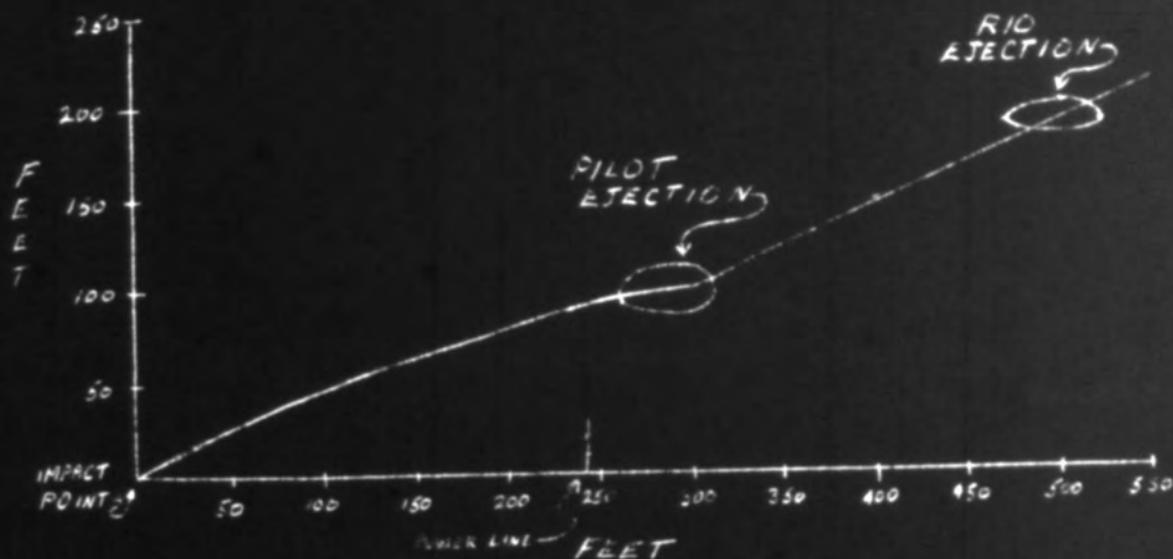
COMPARISON VIEW OF LEFT AND RIGHT BLEED AIR
DUCTING IN AREA OF SUSPICION.
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES
ENCLOSURE (25)



CLOSE UP VIEW OF LEFT BLEED AIR DUCTING
AREA OF SUSPICION.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH OPNAVINST 3750.6 SERIES
ENCLOSURE (26)

EJECTION DIAGRAM



STATEMENT of Major (b) (6) USMC concerning
VMFA-312 AAR-5-684 involving BuNo 148401 occurring on 29 January 1968.
Pilot: Major (b) (6)

1. The following is a record of custody of VMFA BuNo 148401:

a.	1 September 1961	Navy Acceptance
b.	31 October 1961	VF-101 Det "A"
c.	8 December 1961	VF-102
d.	20 December 1962	VF-101 Det "A"
e.	14 February 1963	VF-101
f.	12 September 1963	VMFA-115
g.	10 June 1964	H&MS-24 Sub Unit #1
h.	1 July 1964	VMFA-323
i.	9 October 1965	H&MS-24 Sub Unit #1
j.	8 November 1965	VMFA-513
k.	16 February 1966	VMFA-312

2. This aircraft has accumulated 1402 hours since acceptance, 611.2 hours in this tour, 59.4 hours in the month of January 1968 and 142.0 hours since the last calendar inspection completed on 11 November 1967. It is on its 4th tour and completed PAR on 7 September 1966.

3. The following is a list of pertinent technical directives incorporated as indicated:

<u>Directive No.</u>	<u>Title</u>	<u>Date Incorporated</u>
AFC 36	BLC duct system. Improvement of leading edge BLC valve linkage	Production Equip.
AFC 55 Pt 1	Engine bleed air system improvement of engine bleed air and BLC malfunctioning	Production Equip.
AFC 55 Pt 2	Engine air system, replacement of engine bleed air ducts	Production Equip.
AFC 257	Engine bleed air system; replacement of gaskets, bolts	Not incorporated

<u>Directive No</u>	<u>Title</u>	<u>Date Incorporated</u>
AFC 300	Bleed air check valve clamp modification	19 Aug 1966

4. This aircraft has completed In-Service Repair on two separate occasions. On 22 January 1965 repair was completed on the port wings trailing edge honeycomb patch and fuel leak originating in the area of #1 and #2 fuel cells. On 10 April 1967 the port center wing leading edge outboard hinge was replaced.

During the PAR process of 1965 a crack in the main spar was repaired. No other significant repairs have been accomplished.

5. "Yellow Sheet" discrepancies of significant interest and the corrective action taken is indicated as follows:

<u>Date</u>	<u>Discrepancy</u>	<u>Corrective Action</u>
26 Jan 68	Fire warning light in flight, Port engine blinked several time and went out. Pushed fire circuit test button and couldn't get a light. Checked warning light, test bulbs checked good. On deck fire warning system checked good before and after hop.	Found cannon plug on control units to be loose. Tightened same and system checked good.

6. I have been an F4 Aircraft Maintenance Officer for five years, have accumulated 1022 hours in the F4 and 4505 total hours.

(b) (6)

AIRCRAFT FIRE/RESCUE REPORT
NAWREPS FORM 11135/1 (8-60)

NO TRANSMITTAL LETTER REQUIRED

REPORT SYMBOL BUWEP 11135-1

STATION AND LOCATION

Marine Corps Air Station
 Beaufort, South Carolina

DATE OF REPORT

1 February 1968

AFBR NO.

1-68

DATE AND TIME OF INCIDENT

29 January 1968

ON STATION

OFF STATION

BUREAU NO.

REPORTING CUSTODIAN

WPA 342 H48 32

M-B

140401

TO: Commander, Naval Air Systems Command (AIR-4232)

EXACT LOCATION OF INCIDENT

1 Mile off the approach
 end of Runway #22.

MILITARY COMMAND

(1) Commander Marine Corps Air Bases Eastern Area
 (2) Commandant of the Marine Corps (code AAP)

VIA SIGNATURE

TYPE OF INCIDENT			FIRE INVOLVED	ESTIMATED CASE
TAKE-OFF	LINE OR LOADING	FUELING	YES	Strike
LANDING	PARKED	MAINTENANCE	NO	
TAXIING	DEFUELING	INFLIGHT	IMPACT IGNITION DELAYED IGNITION	
OTHER (Specify)				

CONDITIONS AT TIME OF INCIDENT

GENERAL WEATHER PICTURE

Clear/Scattered Clouds

WIND DIRECTION

090 Degrees

WIND VELOCITY (mph)

4 Knots

TEMPERATURE (°F)

69 Degrees

NATURE OF TERRAIN AT AND IN APPROACH TO INCIDENT

Flowed Fields, Woods and
 Marsh.

LIQUID FUEL QUANTITY

ESTIMATED ON BOARD BEFORE INCIDENT (lbs)

3000

ESTIMATED ON BOARD AFTER INCIDENT (lbs)

None

ESTIMATED SPILL AREA (Size in feet)

6000 Sq. Ft.

OTHER FUELS

Hydraulic Fluid, Lox, Woods
 and Brush.

PERSONNEL RESCUE

NO. PERSONNEL ON BOARD AIRCRAFT

2

DESCRIBE RESCUE METHODS USED

Both Pilot and RIO ejected.

NO. PERSONNEL SURVIVED

2

NO. PERSONNEL ESCAPED UNAIDED

2

NO. PERSONNEL RESCUED

FIRE FIGHTING

FIRST METHOD OF ALARM USED

TWO-WAY RADIO

EMERGENCY INTER-COM.

EMERGENCY PHONE

TIME RECORD

TIME ALARM RECEIVED

Crash - 1620R

TIME EQUIPMENT ARRIVED

1618R

OTHER METHOD (State)

1609R

STATION EQUIPMENT

EACH EQUIPMENT AVAILABLE AT INCIDENT		NO. PERSONNEL MANNING EQUIPMENT		QUANTITY EXTINGUISHING AGENTS USED	
TYPE	NO. LOADS USED	MIL.	CIV.	FOAM (gals. conc. used)	OTHER TYPES AND QUANTITIES
T.A.H.	1	3	-	-	210lbs PKP, 35gals. t/w
MB-5	1 1/2	4	-	35gals.	5-30lb PKP Ext.
MB-5	1	4	-	-	400gal Water, 4-30lb PKP Ext.
Structural	1	-	2	-	400gal Water
Pick-up	-	2	-	-	2-30lb PKP Ext.

STATION EQUIPMENT OUT OF SERVICE

Total PKP 500lbs.
 IMPROV. DELAYS TO REPAIR

TYPE	DEFICIENCY	NO. OF DAYS	
MB-1	Handline Foam Valve	1	
MB-1	Faulty AEU, P.M., Electrical Short		
	Faulty water pump on pump engine	5	3 working days
Truck	Broken Piston (Engine Change)	63	Overhaul of Engine under Contract.

ENCLOSURE (2)

At the time of the Crash, all Crash equipment was set up on Runway #22 waiting for the Aircraft which had declared an emergency due to a fire warning light, left engine secured and control difficulties.

The Crash was observed by all drivers and immediate response was made with a Dodge Power Wagon equipped with Light Water, a Command Vehicle and one MB-5. An additional MB-5 (water only), an Oshkosh Crane and MRS-110 Tractor responded from the Crash Barn.

The first truck (light water unit) approached from down wind and extinguished brush fires around the Homer Transmitter Site. The Command Vehicle found an access road to the scene of impact and called for an MB-5 to proceed from it's location with the light water unit, to the impact area where it immediately put it's handline into operation, extinguishing the fire. A second MB-5 was used strictly for brush fire fighting. The structural fire truck was used for brush fire fighting and to refill the first MB-5.

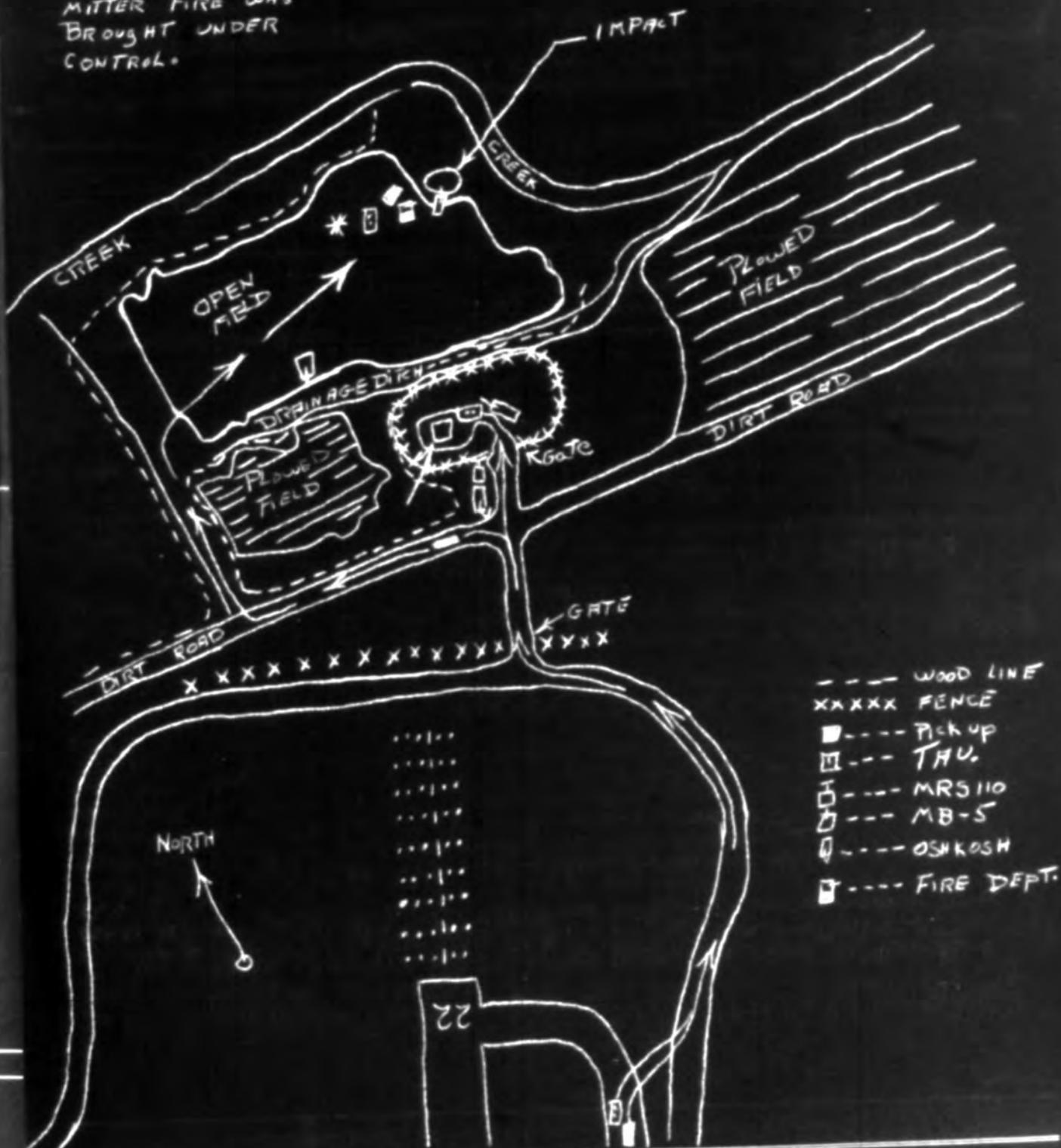
The Pilot and R.I.O. when located were on their feet and apparently in good health. A Coast Guard Helicopter arrived on the scene and picked up both men to take them to the USN Hospital.

The Aircraft fire was secured in 4 minutes while brush and wood fires were fought for about 20 minutes. All Agents worked properly and the combination of PKP and Light Water proved effecient on Class A materials.

Salvage operations will be conducted when the accident board releases the aircraft.

DIAGRAM OF INCIDENT SHOWING WIND, DIRECTION, APPROACH OF EQUIPMENT, POSITION OF AIRCRAFT, DISTANCES, ETC.
 (Maps and photographs should be included, if significant)

* TAU WAS BROUGHT OVER AFTER TRANSMITTER FIRE WAS BROUGHT UNDER CONTROL.



- - - - WOOD LINE
- XXXXX FENCE
- - - - Pickup
- ▤ - - - TAU
- ▥ - - - MRS 110
- ▧ - - - MB-5
- ⊕ - - - OSHKOSH
- ▨ - - - FIRE DEPT.

DESCRIPTION OF DIFFICULTIES IN FIRE CONTROL AND
EXTINGUISHMENT DUE TO UNUSUAL CONDITIONS OR EQUIPMENT
AND/OR AGENT INADEQUACIES

The usual difficulty for Marine Corps Air Station, Beaufort, was encountered due to the marshes and swamps which surround this Air Station. Only one vehicle was able to reach the aircraft and it quickly sank to the axle and later had to be pulled out. This was the reason for the high consumption of PKP since we were unable to reach the aircraft with anything but a handline.

RECOMMENDATIONS FOR IMPROVEMENTS IN EQUIPMENT
AND/OR PROCEDURES TO INCREASE EFFICIENCY

It is recommended that Air Stations situated in areas with an abundance of water and marshes be supplied with a small tracked Amphibious Vehicle capable of carrying a T.A.U. and 2 or 3 men.

MONETARY LOSSES (Estimated)

PERCENT DAMAGE BY IMPACT	PERCENT DAMAGE BY FIRE	LOSS TO SURROUNDING PROPERTY
50 %	50 %	Slight
DATE	PREPARED BY (Name and title)	SIGNATURE
31 Jan 1968	1st Lt (b) (6) Crash Officer	
DATE	STATION COMMANDING OFFICER	SIGNATURE
1 FEB 1968	H. STEMAN	

STATEMENT of Lt (b) (6)

USCG concerning WFA-312

AAR-5-68A involving F-4B BuNo 148401 occurring on 29 January 1968.

Pilot: Major (b) (6)

At approximately 1624R, 29 January 1968 I was proceeding in HH52A CGRR 1402 Southbound at 1000 feet, about one mile South of Edisto Beach, South Carolina. At this time my aircraft, and the HH52A CGRR 1394, operating 3 miles to the East of my position, were actively engaged in a Search and Rescue mission involving a search for the missing shrimp trawler Pine Key. At 1625R I received a radio call from the Operations Duty Officer at CGAS Savannah diverting my aircraft to the vicinity of MCAS Beaufort, South Carolina to investigate a reported aircraft crash, and assist as required. The initial report of the incident, relayed to CGAS Savannah from MCAS Beaufort via FAA Hotline, indicated that an F-4 type aircraft had crashed northeast of MCAS Beaufort and the condition of the two crewmembers was unknown. Weather conditions in the vicinity at this time were high thin overcast, visibility to the west was in excess of 15 miles with some light haze, and the wind was from the east-southeast at about 5 knots. As I turned toward the west I saw a building column of smoke in the vicinity of MCAS Beaufort and assuming this was the location of the crash, I proceeded toward it. At 1626R I contacted MCAS Beaufort tower on 340.2 MHz to advise them I was inbound to the crash site and requested amplifying information. The tower advised crash equipment had been dispatched to the scene and that an A-4 type aircraft was circling the scene at 1500 feet. The tower advised that the A-4 aircraft circling the scene had observed two parachutes following ejection, but could only locate one chute on the ground and did not have either crewmember in sight. At 1632R I arrived on scene to find crash equipment in the process of extinguishing the fire and numerous other personnel in the area. Due to the number of personnel at the crash site I could not immediately identify the crewmembers, although I did observe one abandoned chute in a mud flat 75-100 yards northeast of the burning fuselage. After some searching I observed the crewmembers proceeding toward my aircraft so I landed and took them aboard. On instructions from the tower, I departed the crash site at 1635R to deliver the crewmembers to the U. S. Naval Hospital, Beaufort, South Carolina. The crewmembers were apparently in good condition, with one indicating a backache. At 1642R I landed at the U. S. Naval Hospital, Beaufort, South Carolina and disembarked the crewmembers to an awaiting ambulance. On request of MCAS Beaufort Operations, I returned to MCAS Beaufort to transport the Aircraft Accident Investigation Team to the crash site, then departed the area enroute Savannah.

As an additional item of information I would like to emphasize that at no time prior to, or during, the aforementioned sequence of events did either of the Coast Guard aircraft in the vicinity hear an ejection seat actuated "bailout beeper" on 243.0 MHz."

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH UPNAVINST 3750.6 SERIES

CERTIFIED TRUE COPY

ENCLOSURE (30)

NNNNZCZCNASC 769CZCSLB 842
RTTEZYUW RUCILWA0085 0442057-EEEE--RUCILSA.
ZNY EEEEE

R 131922Z FEB 68
FM NAVAIRSYSCOMREPLANT
TO RUCIHHA/NAVPLANTREPO STL
INFO RUEDBHB/NAVAIRSYSCOMHQ
RUCILMA/COMNAVAIRLANT
RUCINVA/CG FMFLANT
RUE0AWA/CG SECOND MAW
RUCILSA/NAVAVNSAFECEN
RUCINQA/MARAIRGRU THREE TWO
RUCINQA/MARFITATKRON THREE ONE TWO
RUWJMUA/NAVAIRSYSCOMREPAC
BT

UNCLAS E F T O
CONTRACTOR'S METALLURGICAL ANALYSIS F40 148401 BLEED AIR DUCTING.

A. VMFA 312 071720Z NOTAL

B. BWFRLANT INST. 4730.17A

1. SUBJ MAIL INVOLVED IN ACFT. ACCIDENT RELEASED BY SQDN TO MDC REP FOR
METALLURGICAL ANALYSIS BY CONTRACTOR. REQUEST ASSUME CONTROL AND
ARRANGE FOR INVESTIGATION IN ACCORD REF B.

2. REPLANT CONTROL F4-13-68 APPLIES

BT

769/68

COG mcm

FEB
131922Z

NRNWCZC NASC 0302ZCSLB595
PTTEZYUW RUCINQA0947 0302208-EEEE--RUCILSA.
ZNY EEEEE
P 302208Z JAN 68
FM MARFITATKRON THREE ONE TWO
TO RUENAAA/CGO
RUCILSA/NAVAVNSAFECEN
RUEDBHB/NAVATRSYSCOMHQ
RUCILWA/NAVATRSYSCOMREPLANT
RUEDAWA/CG SECOND MAW
INFO RUCIHOA/CMC
RUCILMA/COMNAVAIRLANI
RUWJMUA/COMNAVAIRPAC
RUCINVA/CG FMFLANT
RUHFMA/CG FMFPAC
RUCLBEA/COMMANDANT SIXTH NAVDIST
RUMRAW/CG FIRST MAW
RUWJBRB/CG THIRD MAW
ZEN/NARAIRGRU THREE TWO
ZEN/MCAS BEAUFORT
RUCIHHH/NAVPLANTREPO (MCDONNELL, ST. LOUIS, MO.)
RUCIHHH/NAVPLANTREPO
(GENERAL ELECTRIC, EVANSDALE, OHIO)
RUEDBHB/COMNAVRAT

900/68

SUPPLEMENTARY MSG
No. 1 AAR

Change Inquiry
Class

(1) G
(1) B

PAGE TWO RUCINQA0947 UNCLAS E F T O
RUWJMRA/RCVM FOUR
RUWJAPA/

CVW ONE TWO
RUEDNKA/CINCLACTFLT
RUWJABA/DAS MORTON AFB
RUCLJFA/JAG

BT

UNCLAS E F T O

(SC-3) CMC ATTN CODE AAP
FOR OFFICIAL USE ONLY

SUPPLEMENTARY MESSAGE REPORT NR 1 OF AIRCRAFT CCIDENT

A. OPNAVINST 3750.6F

B. MY MSG 302435Z JAN 68

1. 29 JAN 68 1618R, DAY

2. F-4B, 148401, VMFA-312, 5-68A

5. (b) (6), USMCR, (b) (6), ACTIVE, [REDACTED]

15. ASSISTANCE FROM MCDONNELL FIELD INVESTIGATION TEAM AND GENERAL
ELECTRIC FIELD INVESTIGATOR HAS BEEN REQUESTED THRU LOCAL TECH REPS.

BT F-4B/148401 VMFA-312 5-68A 1-29-68

JAN

302208Z

WPNASC 800
DE COMM 8700 COMP
TSZFRLEGLM ZCSLA971
PITEZYUW RUCINQAB941 8300435-EEEE--RUCILSA.

ZNY EEEEE
P 300435Z JAN 68
FM MARFITTATION THREE ONE TWO
TO RUEWAAA/COM
RUCILSA/NAVAIRMAFECEN
RUEDBHB/NAVAIRSYSCOMHQ
RUCILWA/NAVAIRSYSCOMREPLANT
RUEDAWA/CG SECOND MAW
INFO RUCINOA/CMC
RUCILMA/COMNAVAIRLANT
RUMJMUA/COMNAVAIRPAC
RUCINVA/CG FMFLANT
RUMHFMA/CG FMFPAC
RUCLEA/COMMANDANT SIXTH NAVDIST
RUMHAW/CG FIRST MAW
RUSJRRB/CG THIRD MAW
ZEN/MARAIRGRU THREE TWO
ZEEN/MCAS BEAUFORT
RUCINHA/NAVPLANTREPO (MCDCORREL, ST. LOUIS, MO.)
ZEN/NAVPLANTREPO (GENERAL ELECTRIC, EVANSDALE, OHIO)
RUEDBHB/CHNAVMA
RUMJMR4/RCVW FOUR
RUMJAPA/RCVW ONE TWO
RUEDNKA/CINCLANTFLT
RUMJABA/DAS MORTON AFB
RUCIJFA/JAG

8.01/68

AAR

BT
UNCLAS E F T O
(SC-3) CMC ATTN CODE AAP
FOR OFFICIAL USE ONLY
PRELIMINARY MESSAGE REPORT OF AIRCRAFT ACCIDENT

1. OPNAV INST 3750.6F
2. 29 JAN 68, 1618, DAY
3. F-4B, 148401, VMFA-312, 5-68A
4. (b) (6), USMC, (b) (6), ACTIVE, GOLF
5. (b) (6), USMC, (b) (6), ACTIVE, GOLF
6. ALFA, AIRCRAFT COLLIDED WITH GROUND IN FLAT ATTITUDE AND BURNED
7. ATB INTERCEPT, 81PLUS8/
8. COLLISION WITH GROUND ON SINGLE ENGINE APPROACH
9. AIRCRAFT WAS LEVEL AT 2000 FEET, 450 KCAS. BOTH ENGINES AT 85-90 PERCENT AS PILOT STARTED TO ADVANCE POWER LOUD BANG HEARD WITH A METALLIC RING TO IT, FOLLOWED BY FLICKERING FIRE WARNING LITE ON LEFT ENGINE. LEFT ENGINE RETARDED TO IDLE AND WARNING SYSTEM CHECKED. WITH CHECK BUTTON DEPRESSED THE LEF FIRE WARNING LITE CONTINUED TO FLICKER AND NO OTHER FIRE/OVHT WARNING LITES ILLUMINATED, LEFT ENGINE WAS THEN SHUT DOWN. STRAIGHT IN APPROACH INITIATED. GEAR LOWERED AND ONE HALF FLAPS EXTENDED. GROSS WT. APPROX 35,000 LBS. AS POWER WAS ADDED ON RIGHT ENGINE, APPROX 85-90 PERCENT, A LOUD BANG WAS HEARD. SEVERAL C/B POPPED IN R/C AND HEAVY SMOKE WAS OBSERVED COMING OUT OF BOTH ENGINE INTAKES. HEAVY SMOKE THEN FILLED BOTH COCKPITS. PILOT TOLD RIO TO EJECT WHICH HE DID (APPROX 30FT.) AND PILOT PULLED BACK ON STICK AND EJECTED (LESS THAN 30FT.). AIRCRAFT IMPACT WAS LEVEL OR SLIGHTLY NOSE UP. PORTION FORWARD OF ENGINES WAS SCATTERED APPROX 500 FEET FORWARD OF IMPACT POINT. ENGINES, WINGS, AND AIL REMAINED CLOSE TO IMPACT POINT.
10. 16000 BROKEN, HI BROKEN, 7 BILES, 69/46, 8804, 3032
11. UNKNOWN
12. ANTICIPATE PRIORITY DIR OF BOTH ENGINES.
13. MARTIN-BAKER M-5 EJECTION SEAT, WITH ACSEV 5262, 1761, ACSC 53, 74, 101, 78, 55, C AND SEC 98, 13. REAR SEAT DID NOT HAVE ACSC 5, ESCAPE SYSTEM WORKED NORMALLY. REAR SEAT EJECTED AT APPROX 300 FPM, 160 KCAS. SLIGHTLY NOSE HIGH WITH APPROX 500 FPM SINK RATE. FRONT SEAT EJECTED AT APPROX 150 FEET, 160 KCAS, SLIGHTLY NOSE HIGH WITH LESS THAN 500 FPM SINK RATE. MK3C WORK BY BOTH CREW MEMBERS ATTACHED TO MA-2 TORSO HARNESS. RSSK-1 SEAT CAN IN BOTH EJECTION SEATS.
14. NONE
15. AIRCRAFT IMPACT IN MARSHY AREA AND DEBRIS SCATERED IN FARMER'S FIELD.

LEFT ENGINE SERNO 421173 J79-0E3B TOTHR8 815.5 SINCE OVHL 451.6
RIGHT ENGINE SERNO 421091 J79-0E8A TO THRS 1171.8 NO OVHL

16. CAPTIC R GEIGER, ASO, 2248, 868.
BT
E-4B/148401 VMFA-312 5-68A 1-29-68

80129145
300435Z
JAN

MESSAGE DRAFT
SID 4962 (Rev 2/58)

CLASSIFICATION
UNCLAS / E F T O

DATE: 29 JAN 1968

(b) (6)

FROM NAVAL AVIATION
SAFETY CENTER

(b) (6)

DEPT.

LCDR

ACTION

MCAS BEAUFORT
MARFITATKRON THREE ONE TWO

	Mail	
	Flight	
	Message	
	Replies	
X	Priority	X
	Op Inmed.	
	Spec	
	Recd	

APPRO GR EVENDALE
CNO
SO NAVAIRLANT
CGMPLANT
CGSECOND MAW
NAVAIRSTCOMHQ
NAVAIRSTCOMREPLANT
NAVPLANTREPO ST LOUIS

TEXT

UNCLAS E F T O

F-4B BUNO 148401 ACCIDENT

1. LCDR (b) (6) USN, CLEARED TOP SECRET, WILL ARRIVE
MCAS BEAUFORT ABOUT 1200 LOCAL, 30 JAN 1968, TO CONDUCT NAVAVNSAFECEN
INVESTIGATION OF SUBJECT ACCIDENT. REQUEST SOQ BE PROVIDED.

2. INSTRUCTIONS CONTAINED IN OPNAVINST 3750.6F, PAGE 14, PARA 24B, AND
PAGE 20, PARA 32A, (PRESERVATION OF WRECKAGE) APPLY.

REFERENCE MESSAGE

FORWARDED BY
NAME --

CLASS OF REF.

CGO

FOR SETTING OFFICE

DATE/TIME GROUP

300310Z